Air Quality Permitting
Statement of Basis

March 16, 2006

Permit No. P-060100

Norm’s Utility Contractor, Inc., Portable

Facility ID No. 777-00372

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AIR QUALITY DIVISION

PROPOSED FOR PUBLIC COMMENT

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Acronyms, Units, and Chemical Nomenclatures

AACC	acceptable ambient concentration for carcinogens
acfm	actual cubic feet per minute
AFS	AIRS Facility Subsystem
AIRS	Aerometric Information Retrieval System
AQCR	Air Quality Control Region
CFR	Code of Federal Regulations
CO	carbon monoxide
DEQ	Department of Environmental Quality
EPA	U.S. Environmental Protection Agency
^oF	degrees Fahrenheit
g/sec	grams per second
gr/dscf	grain (1 lb = 7,000 grains) per dry standard cubic foot
HAPs	Hazardous Air Pollutants
HMA	hot-mix asphalt
IDAPA	a numbering designation for all administrative rules in Idaho promulgated in accordance with the Idaho Administrative Procedures Act
lb/hr	pound per hour
$\mu g/m^3$	micrograms per cubic meter
mg/m^3	milligrams per cubic meter
MMBtu/hr	million British thermal units per hour
NESHAP	National Emission Standards for Hazardous Air Pollutants
NO_x	nitrogen oxides
NSPS	New Source Performance Standards
PAH	polycyclic aromatic hydrocarbons
PM	particulate matter
PM_{10}	particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers
POM	polycyclic organic matter
PSD	Prevention of Significant Deterioration
PTC	permit to construct
RAP	recycled asphalt pavement
SIC	Standard Industrial Classification
SM	synthetic minor
SO_2	sulfur dioxide
TAP	toxic air pollutant
T-RACT	Toxic Air Pollutant – Reasonably Available Control Technology
T/yr	tons per year
UTM	Universal Transverse Mercator
VOC	volatile organic compound

1. PURPOSE

The purpose for this document is to satisfy the requirements of IDAPA 58.01.01.200, Rules for the Control of Air Pollution in Idaho, for issuing permits to construct.

2. FACILITY DESCRIPTION

Norm's Utility Contractor, Inc. (Norm's) operates a portable hot-mix asphalt (HMA) plant that consists of a natural gas-fired parallel flow drum mix dryer, an aboveground asphalt oil storage tank with a natural gas-fired tank heater, a baghouse, storage silos, conveyors and feed bins, aggregate stock piles, and haul trucks.

Stockpiled aggregate is transferred to feed bins. Aggregate may consist of up to 50 % recycled asphalt pavement (RAP). Aggregate is dispensed from the bins onto feeder conveyors, which transfer the aggregate to the natural-gas-fired drum mix dryer. Aggregate travels through the rotating drum dryer, and when dried, the aggregate is mixed with liquid asphalt cement. The resulting HMA is then conveyed to hot storage bins until it can be loaded into trucks for transport off site or transferred to silos for temporary storage.

Electrical power is provided by a connection to the local grid or may be provided using a portable generator engine. Permit conditions for the operation of an electric generator are included in the facility's permit to construct (PTC), Permit No. P-050124, dated March 8, 2006, for the facility's collocated portable ready-mix concrete plant.

3. FACILITY / AREA CLASSIFICATION

Norm's HMA plant is not a designated facility as defined in IDAPA 58.01.01.006.27 and not a major facility as defined in IDAPA 58.01.01.008.10 or 205. Norm's HMA plant is classified as a synthetic minor facility because, without permit limits on its potential to emit, the PM_{10} and CO emissions would exceed 100 tons per year. The AIRS classification is therefore "SM."

The facility is a portable facility and may locate in an attainment or unclassified area anywhere in the state of Idaho. The permit excludes operation of this facility in any PM_{10} nonattainment area. A relocation form must be completed and submitted to DEQ prior to any relocation.

The AIRS information provided in Appendix A defines the classification for each regulated air pollutant for the Norm's Portable HMA facility. This required information is entered into the EPA AIRs database.

4. APPLICATION SCOPE

Norm's is proposing to commence construction and operation of a portable HMA plant. The facility is requesting a PTC be issued to cover the construction and operations of the portable HMA plant in attainment or unclassified areas. The HMA plant includes the capability to use recycled asphalt pavement (RAP) as part of the design aggregate and will use natural gas to fire the drum mix dryer and asphalt tank heater. The maximum throughput for the HMA plant is 250 tons per hour (T/hr), 2,500 tons per day, and 300,000 tons per consecutive 12-month period (tons per year, T/yr), operating a maximum of 10 hours per day (hr/day). The asphalt tank heater will operate a maximum of 18.4 hours per day and 6,720 hours per consecutive 12-month period (hours per year). This accounts for extra warming time in cold weather conditions.

The HMA plant is proposed to be initially located at the "Haman Site" near Rathdrum, Idaho. At the Haman Site, the HMA plant would be collocated with Norm's permitted portable ready-mix concrete plant as well as with a rock crusher and generator set operated by Hap Taylor & Sons, Inc., under a permit by rule. During the review of this application, DEQ was also made aware of the presence of a neighboring stone crushing facility operated by others. Modeling of potential air quality impacts for the operation of the HMA plant included consideration of emissions from these other units.

4.1 Application Chronology

January 5, 2006	Receipt of a PTC application, PTC application fee, and a 15-day pre-permit construction approval request.
January 11, 2006	Receipt of a Title V deferral registration form for the HMA plant.
January 18, 2006	15-day pre-permit construction approval granted.
January 25, 2006	PTC application determined to be complete.
February 2, 2006	Begin the opportunity to request a public comment period.
February 27, 2006	Receipt of request for public comment period from a member of the public.
March 3, 2006	End of the opportunity to request a public comment period. Determination by DEQ that Toxic Air Pollutant – Reasonably Available Control Technology (T-RACT) was applicable. In accordance with IDAPA 58.01.01.210.13.b, this action required DEQ to revoke the completeness determination for the initial application.
March 9, 2006	Additional information received: submittal of a T-RACT analysis for polycyclic organic matter (POM) emissions.
March 15, 2006	PTC application, including the T-RACT submittal, determined to be complete.
March 16, 2006	Proposed permit issued for public comment.

5. PERMIT ANALYSIS

This section of the Statement of Basis describes the regulatory requirements for this PTC action.

5.1 Equipment Listing

HMA Plant:

Manufacturer/Model:		Hauk Quad Burner, Model 8835HMSIPR Mixing Unit	
Type of HMA plant:		Parallel flow, horizontally fired drum mix	
Rated heat input capacity:		88.2 MMBtu/hr	
Fuel type(s):		natural gas	
Emissions Control device(s):		Baghouse, Model 8800-P/10 Fabric Filter House	
Stack parameters:			
Height:	28 ft	Exit gas volume:	52,800 actual cubic feet per minute (acfm)
Diameter:	1.5 ft	Exit gas temperature:	331.13°F
Aggregate Storage Bin(s):		Model VAB1410P-4 Bin Unit, Model 1310P3 Rap Bin Unit	
Conveyor(s):		Model 30" x 3' Feed Conveyor Cedarapids VAB 1410/Conveyors, 7.4 ft x 21.4 ft	
HMA Storage:		Two 80-ton silos: Cedarapids 80SE-400/T540-91 Self Erect Silo	

HMA Asphalt Storage Tank Heater

Manufacturer/Model:	Astec Industries, CEI Enterprises, Power Flame Burner / H915-91
Type:	horizontally fired
Rated heat input capacity:	2.115 MMBtu
Fuel Type(s):	natural gas
Emissions Control device(s):	None

Associated Equipment

Asphalt Storage:	25,000 gallon aboveground storage tank

Generator Set

None	Electrical power is supplied by the local power grid. The HMA plant is collocated with Norm's portable concrete batch plant. Emergency backup power may be provided by a generator that is included in the Norm's permit for the portable concrete batch plant.

5.2 Emissions Inventory

Emission estimates for the HMA plant from the following sources were based on emissions factors from AP-42 Section 11.1, Hot Mix Asphalt Plants, March 2004, and were based on operating for 10 hours per day at 250 tons per hour, and for a maximum annual throughput of 300,000 tons per year (1,200 hours per year at maximum hourly throughput):

- HMA drum mix dryer,
- Load-out, silo filling, and asphalt tank storage.

Emission estimates for the HMA plant for the following sources were based on emission factors from AP-42 Section 1.4, Natural Gas Combustion, July 1998, with fuel heat values taken from AP-42, Appendix A, and were based on operating for 18 hours per day and for a maximum of 6,720 hours per year. Note that restricting daily operation to 18 hours would result in operating for 6,570 hours per year; annual emission estimates were estimated using 6,720 hours per year:

- Asphalt tank heater.

Emission estimates for controlled and uncontrolled emissions of criteria and toxic air pollutants (TAPs) are shown in Appendix B.

AP-42 emissions factors for drum mix asphalt plants are not dependent on whether the drum mix plant is a parallel flow or counterflow design. Consequently, emissions estimates in Appendix B are accurate for either parallel flow drum mix plants or for counter flow drum mix plants.

AP-42 Section 11.1.1.3 states that a counterflow drum mix plant can normally process RAP at ratios up to 50 % with little or no observed effect upon emissions. Because data are not available to distinguish significant emissions differences between the parallel flow and counterflow process designs, RAP processing in parallel flow drum mixers is also assumed to have little or no observed effect upon emissions. Because of these findings, the permit allows processing of design aggregate that is comprised of up to 50 % RAP.

Table 5.1 shows the criteria air pollutant emissions from the hot-mix asphalt plant, the asphalt tank heater, and from silo filling and loadout. PM emissions are also shown for the drum dryer because the facility is subject to the New Source Performance Standard (NSPS) PM grain loading standard.

Table 5.1 EMISSION INVENTORY ESTIMATES – PM and CRITERIA POLLUTANTS (CONTROLLED POTENTIAL TO EMIT)

Pollutant	Drum Dryer		Asphalt Tank Heater		Silo Filling & Loadout	
	(lb/hr)	(T/yr)	(lb/hr)	(T/yr)	(lb/hr)	(T/yr)
PM (total)	8.25	4.95				
PM_{10} (total)	5.75	3.45	0.0158	0.053	0.130	0.078
CO	32.50	19.5	0.174	0.59	0.337	0.20
NO_x	6.50	3.90	0.207	0.70		
SO_2	0.85	0.51	1.24E-03	4.2E-03		
VOC	8.00	4.80	0.0114	0.038	0.0402	0.024
Lead	1.55E-04	9.3E-05	1.04E-06	3.5E-06		

Table 5.2 shows the emissions of TAPs in total from the hot-mix asphalt plant, the asphalt tank heater, and from silo filling and loadout that exceeded the applicable screening emission level in pounds per hour. These values were determined based on the drum dryer and silo filling/loadout operating at maximum design capacity of 250 tons per hour for 10 hours per day and a maximum of 1,250 hours per year, and the asphalt tank heater operating at its maximum heat input capacity for 18.5 hours per day and a maximum of 6,720 hours per year. This is consistent with the values used in DEQ's modeling verification.

Because the asphalt tank heater and silo filling/loadout operations do not include any emissions control equipment, and the drum mix dryer is provided with a fabric filter baghouse which does not limit the emissions of these TAPs, the estimates shown in Table 5.2 are for uncontrolled emissions.

Table 5.2 EMISSION INVENTORY ESTIMATES – TOXIC AIR POLLUTANTS (CONTROLLED POTENTIAL TO EMIT)

Pollutant	Drum Dryer		Asphalt Tank Heater		Silo Filling & Loadout	TOTAL	Screening Emission Limit
	(lb/hr)[a]	Avg lb/hr[b]	(lb/hr)[a]	Avg lb/hr[b]	(lb/hr)[a]	(lb/hr)	(lb/hr)
Non-PAH TAPs							
Benzene	9.75E-02	4.06E-02	4.35E-06	3.35E-06	1.52E-03	9.90E-02	2.40E-05
Formaldehyde	7.75E-01 **930 lb/yr**	3.23E-01	1.56E-04 **1.05 lb/yr**	1.20E-04	2.19E-02 **26.3 lb/yr**	7.97E-01 **957 lb/yr**	5.10E-04
Polycyclic Aromatic Hydrocarbons (PAH) TAPs							
Benzo(a)anthracene	5.25E-05		3.73E-09		5.17E-05	1.04E-04	---
Benzo(a)pyrene	2.45E-06		2.49E-09		1.96E-06	4.41E-06	---
Benzo(b)fluoranthene	2.50E-05		3.73E-09		6.48E-06	3.15E-05	---
Benzo(k)fluoranthene	1.03E-05		3.73E-09		1.88E-06	1.22E-05	---
Chrysene	4.50E-05		3.73E-09		2.21E-04	2.66E-04	---
Dibenzo(a,h)anthracene	---		2.49E-09		3.15E-07	3.17E-07	---
Indeno(1,2,3-cd)pyrene	1.75E-06		3.73E-09		4.01E-07	2.15E-06	---
Polycyclic Organic Matter (POM) (total of PAHs listed)	1.37E-04 lb/hr **1.37E-03 lb/dy** **0.164 lb/yr**[c]	5.71E-05	2.36E-08 lb/hr **4.37E-07 lb/dy** **1.59E-04 lb/yr**[c]	3.40E-01	2.84E-04 lb/hr **2.84E-03 lb/dy** **0.340 lb/yr**[c]	4.21E-04lb/hr **4.21E-03 lb/dy** **0.505 lb/yr**	2.60E-06
Metals							
Arsenic	1.40E-04	5.83E-05	4.15E-07	3.20E-07	--	1.40E-04	1.50E-06
Cadmium	1.03E-04	4.29E-05	2.28E-06	1.76E-06	--	1.05E-04	3.70E-06
Hexavalent Chromium	1.13E-04	4.71E-05	--		--	1.13E-04	5.60E-07
Nickel	1.58E-02	6.58E-03	--		--	1.58E-02	2.70E-05

[a] Lb/hr emission rates were based on emission factors.
[b] Average hourly rates and pounds per day (lb/dy) were based on operation of 10 hours per day for drum dryer and silo/loadout, 18.5 hours per day for tank heater.
[c] Yearly rates were based on 1,200 hours per year (lb/yr) for the drum dryer and silo/loadout and 6720 hours per year for the tank heater.

Table 5.3 shows the uncontrolled potential to emit for criteria air pollutant and hazardous air pollutant emissions from the hot-mix asphalt plant and the asphalt tank heater for AIRS facility classification purposes. This estimate is based on an AP-42 uncontrolled emission factor for PM_{10} (i.e., emissions without the baghouse) and continuous operation of the drum dryer and tank heater throughout the year (i.e., for 8,760 hours). As shown in the table, uncontrolled emissions of PM_{10} and CO would exceed 100 tons per year. Uncontrolled emissions of hazardous air pollutants (HAPs) do not exceed 10 tons per year for any HAP, and do not exceed 25 tons per year for all HAPs combined.

Table 5.3 EMISSION INVENTORY ESTIMATES – CRITERIA POLLUTANTS (UNCONTROLLED POTENTIAL TO EMIT)

Pollutant	Drum Dryer		Asphalt Tank Heater		TOTAL	
	(lb/hr)	(T/yr)	(lb/hr)	(T/yr)	(lb/hr)	(T/yr)
PM_{10} (total)	1,625	7,120	0.0158	0.069	1,625	7,120
CO	32.50	142	0.174	0.763	33.0	143
NO_x	6.50	28.5	0.207	0.908	6.71	29.4
SO_2	0.85	3.72	1.24E-03	5.45E-03	0.85	3.73
VOC	8.00	35.0	0.0114	0.0500	8.05	35.1
Lead	1.55E-04	6.79E-04	1.04E-06	4.54E-06	1.56E-04	6.83E-04
Any HAP						3.40
HAPs (total)						6.01

HAPs = Hazardous Air Pollutants

5.3 Modeling

During the verification analysis of the emissions inventory and ambient air quality modeling, DEQ determined that emissions of POM exceeded the screening emission level and should therefore be modeled. DEQ's verification modeling showed that the POM emissions would also exceed the acceptable ambient concentrations for carcinogen (AACC). Through discussions with Kevin Schilling, DEQ's modeling coordinator, and Norm's consultant, CH2M Hill, DEQ determined that T-RACT was applicable to the POM emissions associated with the HMA plant.

The ambient air impact analysis submitted as part of the January 5, 2006 application and the T-RACT analysis prepared and submitted by the applicant's consultant in early March, in combination with DEQ's verification analysis, demonstrated to DEQ's satisfaction that emissions from the facility will not cause or significantly contribute to a violation of any air quality standard. The memo documenting DEQ's modeling review is included in Appendix C. Results from a screening-level estimate used to determine which TAPs require a permit limit are also included in Appendix C. The POM T-RACT analysis submitted on behalf of Norm's by CH2M Hill and the memo documenting DEQ's determination of T-RACT applicability and emission standards are included in Appendix D.

5.4 Regulatory Review

This section describes the regulatory analysis of the applicable air quality rules with respect to this PTC.

IDAPA 58.01.01.201............................Permit to Construct Required

A PTC is required for this facility because, without limits on the potential to emit, the estimated PM_{10} and CO emissions may cause or contribute to a violation of the National Ambient Air Quality Standards (NAAQS) would exceed 100 tons per year each, and the POM emissions may exceed the allowable increment for acceptable ambient air concentrations for carcinogens. Norm's has requested a permit to construct a hot-mix asphalt plant to operate as a portable source within the State of Idaho. This is an initial permit to construct for this facility.

40 CFR 60 Subpart I............................. Standards of Performance for Hot-Mix Asphalt Facilities

New Source Performance Standards (NSPS) apply to hot mix asphalt facilities that commenced construction or modification after June 11, 1973. The HMA registration form submitted by the facility says that the HMA plant was manufactured in 1991, and therefore it is an affected facility as defined by 40 CFR 60 Subpart I. An hourly limit on PM from the drum dryer was therefore established, and the NSPS grain loading and opacity standards were included as permit conditions with compliance to be demonstrated by performance source tests.

IDAPA 58.01.01.203............................ National Ambient Air Quality Standards (NAAQS)

Air dispersion modeling using a full impact analysis demonstrated to DEQ's satisfaction that the emissions of criteria pollutants do not exceed the NAAQS. Modeling was based on maximum HMA production rates of 250 tons per hour, operation of the HMA plant for not more than 10 hours per day, and annual HMA production not to exceed 300,000 tons in any consecutive 12-month period (tons per year).

Because the air dispersion modeling predicts that ambient air concentrations may reach 98 percent of the 24-hour NAAQS for PM_{10} , a daily PM_{10} limit was established for the HMA drum dryer. PM_{10} emissions from the asphalt tank heater are limited by a permit condition restricting the daily hours of operation of the heater, and a daily limit on HMA production limits PM_{10} generated by silo filling and loadout operations.

Air dispersion modeling was not conducted for the operation of the portable HMA plant as a stand-alone unit. No information was provided to demonstrate that operation of the HMA plant in a PM_{10} nonattainment area would not cause a significant contribution to a violation of any ambient air quality standard. A permit condition was therefore established to prohibit this facility from operating in any PM_{10} nonattainment area. The permittee may submit an air quality PTC application to be considered as a separate action by DEQ, however, that requests the ability to locate within a PM_{10} nonattainment area.

IDAPA 58.01.01.210……….............. Demonstration of Preconstruction Compliance with Toxic Standards

The facility's estimated toxic air pollutant (TAP) emissions from the HMA plant are shown in Appendix B, and modeling results are shown in Appendix C. The TAP emission estimates are less than the corresponding screening emissions level increment in pounds per hour or—with the exception of POM emissions—were modeled to demonstrate that they would not exceed the applicable acceptable ambient concentration increment listed in IDAPA 58.01.01.585 (24-hour-average limits) or IDAPA 58.01.01.586 (annual limits for carcinogens).

Modeling was based on maximum HMA production rates of 250 tons per hour, operation of the HMA drum dryer and silo filling/loadout for not more than 10 hours per day, and not more than 1,250 hours per year (equivalent to an annual HMA production of 312,500 tons per year), and operation of the asphalt tank heater for not more than 18.5 hours per day and 6,720 hours per year. Hourly, daily, and annual HMA production limits are therefore included as permit conditions.

In accordance with IDAPA 58.01.01.210.12, the applicant submitted information to demonstrate preconstruction compliance for POM emissions using T-RACT. The T-RACT analysis demonstrates to DEQ's satisfaction that adding an additional thermal oxidation system for POM control is not economically feasible, and that the proposed standard of good operation and maintenance on the drum dryer gas burner and the fabric filter baghouse assembly constitutes T-RACT for this case. In accordance with IDAPA 58.01.01.210.14.f, DEQ determined that the T-RACT emission standards for controlling POM require establishment of permit conditions to limit the hours of operation, HMA throughput, and total POM emissions to no more than the values used in DEQ's verification modeling analysis.

In accordance with IDAPA 58.01.01.210.08, if a TAP emission needs to be controlled to comply with the toxic increment, DEQ "shall include an emission limit for the toxic air pollutant in the permit to construct that is equal to or, if requested by the applicant, less than the emission rate that was used in the modeling." A screening-level estimate showed that the uncontrolled emissions of formaldehyde would cause ambient air impacts in excess of the acceptable ambient concentration for carcinogens (AACC, an annual average). A screening-level estimate also showed that the uncontrolled emissions of POM would cause ambient air impacts in excess of ten times the AACC for benzo(a)pyrene (the AACC level justified by the T-RACT analysis for POM). Therefore, annual emissions limits are included in the permit for each of these TAPs that is equal to the emission rate that was used in the modeling. Controlled emissions of each of these pollutants caused ambient impacts below the acceptable ambient increment established for them.

IDAPA 58.01.01.805………….............Rules for Control of Hot-Mix Asphalt Plants
IDAPA 58.01.01.700-701 ....Particulate Matter—Process Weight Limitations

Section 805 specifically requires that particulate matter emitted from hot-mix asphalt plants be subject to the process weight limitations contained in Sections 700 through 703. The HMA drum dryer began operations after October 1, 1979, and is therefore subject to Section 701. At a throughput of 250 tons of HMA per hour, the process weight limitation on PM emissions is 29.25 pounds per hour, or 128 tons per year at the proposed maximum throughput of 300,000 tons of HMA per year.

An hourly limit of 8.25 pounds per hour of PM from the drum dryer stack was established to meet the NSPS grain loading standard, which is significantly less than the process weight limit of 29.25 pounds per hour.

5.5 PERMIT FEES

Norm's paid the $1,000 permit to construct application fee as required in IDAPA 58.01.01.224 on January 5, 2006.

A permit to construct processing fee of $5,000 is required in accordance with IDAPA 58.01.01.225 because the increase in emissions from the addition of the new facility is between 10 and 100 tons per year. The fee calculation spread sheet can be found in Appendix E.

Norm's is not a major facility as defined in IDAPA 58.01.01.008.10. Therefore, registration fees to support the Tier I operating permit program are not applicable in accordance with IDAPA 58.01.01.387.

6. PERMIT CONDITIONS

Permit Condition 1 through 2.2

Permit Conditions 1 through 2.2 contains the Purpose of the Permit, listing of the regulated sources and process description.

Permit Condition 3.1

The 40 CFR 60.90 NSPS 20% opacity limit for Hot-Mix Asphalt Facilities is given as a reasonable permit condition.

Compliance Assurance

Permit Condition 3.19.1 requires visible emissions testing to demonstrate compliance with the NSPS opacity limit.

Permit Condition 3.19.2 requires visible emissions testing to demonstrate compliance with the NSPS opacity limit once each five years. This testing is not required by NSPS but is a reasonable permit condition in accordance with IDAPA 58.01.01.211.01.

Permit Condition 3.2

This permit condition is the IDAPA 58.01.01.625 20% opacity limit. The 40 CFR 60.90 NSPS opacity limit and the IDAPA 58.01.01.625 opacity limit are different. The IDAPA 58.01.01.625 20% opacity limit is for a period or periods aggregating more than three minutes in any 60-minutes, the NSPS 20% opacity limitation is for all periods.

Compliance Assurance

Permit Condition 3.19.1 requires visible emissions testing to demonstrate compliance with the IDAPA opacity limit.

Permit Condition 3.19.2 requires visible emissions testing to demonstrate compliance with the IDAPA opacity limit once each five years.

Permit Condition 3.3

This permit condition contains the NSPS 0.04 grains per dry standard cubic foot (gr/dscf) limit in accordance with 40 CFR Part 60.92(a)(1).

Compliance Assurance

Permit Condition 3.19.1 contains the NSPS performance test, which is a one time performance test. If the one time NSPS performance test has already been conducted on the facility, this permit condition requires, as a reasonable permit condition (IDAPA 58.01.01.211), that the facility conduct a performance test within 60 days after achieving the maximum production rate at which the affected facility will operate but not later than 180 days after initial start up of the source.

Permit Condition 3.19.2 requires emissions testing to demonstrate compliance with the NSPS grain loading limit once each five years as a reasonable permit condition (IDAPA 58.01.01.211).

Permit Condition 3.4

An hourly PM limit from the drum dryer stack is established to meet the NSPS grain loading standard, which also serves to ensure that hourly process weight limits for PM are met. The pound per day PM_{10} limit is established to protect ambient air quality standards. An annual emissions limit is placed on PM_{10} to limit the facility's potential to emit below major source thresholds because uncontrolled emissions of this pollutant are greater than 100 tons per year.

Compliance Assurance

Permit Condition 3.8 limits the type of fuel that may be combusted and Permit Condition 3.9 limits hourly, daily, and annual HMA production and daily and annual hours of operation for the tank heater to ensure that emissions do not exceed permitted levels.

Permit Conditions 3.19.1 and 3.19.2 requires performance testing to demonstrate compliance with PM emission limits. For permitting purposes it is assumed that compliance with the PM emissions limit is also compliance with the PM_{10} emissions limitation.

Particulate matter emissions are controlled by a baghouse. In order to assure the baghouse is operated as designed, Permit Conditions 3.10 through 3.14 require that the facility not operate unless the baghouse is in operation, require the installation of a continuous pressure drop monitor, require at least annual inspection and maintenance on the drum dryer burner and baghouse, and require a written O&M manual that will include annual and periodic inspection requirements, baghouse pressure drop requirements, and requirements for monitoring and recording the pressure drop.

Permit Condition 3.5

Formaldehyde emissions are limited to 957 pounds per year.

POM emissions are limited to 0.51pounds per year.

In accordance with IDAPA 58.01.01.210.08 if a toxic air pollutant emissions need to be controlled to comply with the toxic increment, DEQ "shall include an emission limit for the toxic air pollutant in the permit to construct that is equal to or, if requested by the applicant, less than the emission rate that was used in the modeling." The emission rates for formaldehyde and POM emissions are set based upon the production and operation levels requests by the facility.

Compliance Assurance

Permit Condition 3.9 limits annual HMA production and annual operation of the tank heater to restrict formaldehyde and POM emissions to permitted levels.

Permit Condition 3.6

Visible fugitive dust emissions are limited so that they shall not be observed leaving the property boundary for a period or periods aggregating more than three minutes in any 60 minute period as determined by Method 22.

Compliance Assurance

Permit Condition 3.17 requires monthly monitoring to assure fugitive emissions are being reasonably controlled. There is not a permit condition that explicitly requires the permittee to conduct a Method 22 visible emissions observation to determine compliance with this Permit Condition.

Permit Condition 3.6 is a means of setting a quantifiable emission limitation on fugitive dust emissions so that DEQ can without ambiguity determine if fugitive emissions are being reasonably controlled.

Permit Condition 3.7

Is a recitation of the rules to reasonably control fugitive dust.

Compliance Assurance

Permit condition 3.17 requires monthly monitoring to assure fugitive emissions are being reasonably controlled.

Permit Conditions of Section 4

Permit Conditions of Section 4 prohibit the facility's operations in PM_{10} nonattainment areas.

Compliance Assurance

Section 4 of the permit requires the permittee to contact DEQ for current area status and more specific details about the nonattainment area boundaries. An interactive map showing the boundaries of PM_{10} nonattainment areas can also be accessed on the DEQ website using the following steps to zoom in to map levels showing named streets:

1. Access the DEQ website at http://www.deq.state.id.us/;
2. Select Maps & Data, Interactive Mapping;
3. Click on the link to the Air Quality Monitoring Website, http://mapserver.deq.state.id.us/Website/emissions/viewer.htm; and
4. Zoom in on the area of interest by selecting the "+" icon and clicking on the interactive map.

Remaining Permit Conditions

The permit conditions that have not been discussed in this document are self-explanatory and are not included in this statement of basis.

7. PERMIT REVIEW

7.1 Regional Review of Draft Permit

Within the past few weeks, the Coeur d'Alene Regional Office (CRO) reviewed a draft and proposed permit for Norm's ready-mix concrete plant, which will be collocated with the HMA plant. The CRO's comments and concerns regarding the multiple operations at the Haman Site are reflected in this proposed permit. In consideration of the facility's concerns regarding the potential impact to their business operations that may occur as a result of a request for a public comment period, the DEQ CRO will review and provide any additional comments on the proposed permit for the HMA plant during the public comment period.

7.2 Facility Review of Draft Permit

The facility initially requested a draft of the permit be given to them for review. On March 3, 2006, the facility changed this position and decided they do not want a draft permit. On March 9, 2006, the facility submitted a T-RACT analysis for the emissions of POM. This caused additional work and processing time. The facility will review and comment on the proposed permit for the HMA plant during the public comment period.

7.3 Public Comment

A notice for an opportunity to request a public comment period was published on February 1, 2006 in a paper of general circulation in the area where the facility proposes to locate. The opportunity to request a public comment period ran from February 2, 2006 to March 3, 2006, in accordance with IDAPA 58.01.01.209.01.c. During this time, there was a request for a public comment period on DEQ's proposed action. A proposed PTC for public comment has been prepared and a public comment period is being held.

8. RECOMMENDATION

Based on review of application materials, and all applicable state and federal rules and regulations, staff recommends that Norm's Utility Contractor, Inc. be issued proposed PTC No. P-060100 for the portable HMA plant. The project does not involve PSD requirement.

CR/bf Permit No. P-060100

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APPENDIX A

AIRS INFORMATION

P-060100

AIRS/AFS[a] FACILITY-WIDE CLASSIFICATION[b] DATA ENTRY FORM

Facility Name: Norm's Utility Contractor, Inc.
Facility Location: Portable
AIRS Number: 777-00372

AIR PROGRAM POLLUTANT	SIP	PSD	NSPS (Part 60)	NESHAP (Part 61)	MACT (Part 63)	SM80	TITLE V	AREA CLASSIFICATION A-Attainment U-Unclassified N- Nonattainment
SO_2	B							U
NO_x	B							U
CO	SM							U
PM_{10}	SM							U
PT (Particulate)			SM					U
VOC	B							U
THAP (Total HAPs)	B							
			APPLICABLE SUBPART					
			I					

[a] Aerometric Information Retrieval System (AIRS) Facility Subsystem (AFS)

[b] AIRS/AFS Classification Codes:

A = Actual or potential emissions of a pollutant are above the applicable major source threshold. For HAPs only, class "A" is applied to each pollutant which is at or above the 10 T/yr threshold, **or** each pollutant that is below the 10 T/yr threshold, but contributes to a plant total in excess of 25 T/yr of all HAPs.

SM = Potential emissions fall below applicable major source thresholds if and only if the source complies with federally enforceable regulations or limitations.

B = Actual and potential emissions below all applicable major source thresholds.

C = Class is unknown.

ND = Major source thresholds are not defined (e.g., radionuclides).

APPENDIX B

EMISSIONS INVENTORY

P-060100

Norm's Utility Contractor, Inc.
Portable Hot-Mix Asphalt Plant Permit Application
Facility-Wide Criteria Pollutant Emission Summary

Sources	Emission Rate (ton/year)					
	PM-10	NO_x	SO_2	CO	VOC	Lead
Point Sources						
Ready Mix Generator	0.10	1.62	0.23	2.01	0.23	
Aggregate to bin	1.70					
Sand to bin	0.38					
Hopper loading	2.08					
Cement Silo Filling	0.04					
Fly Ash Silo Filling	0.04					
Batcher Vent (Cement & Fly Ash)	0.02					1.68E-07
Mix Loading	0.04					9.07E-08
Rock Crusher Generator	0.63	21.77	3.67	4.99	0.64	
Rock Crusher	8.30					
HMA Dryer	3.45	3.9	0.5	19.5	4.8	9.30E-05
Tank Heater	0.05	0.7	0.0	0.6	0.0	3.38E-06
Total	16.83	27.96	4.41	27.07	5.71	9.66E-05
Modeling Threshold	1.0	1.0	1.0	na	na	0.6
Modeling Required	Yes	Yes	Yes			No
Fugitive Sources						
Aggregate Storage	1.06					
Sand Storage	0.23					
Load-out, Silo and Asphalt Tank*	0.17			0.4	2.4	
Storage Pile	0.36					
Conveyors	1.01					
Paved Roads	1.66					
Unpaved Roads	1.85					
Total	23.2	28.0	4.4	27.4	8.1	9.7E-05

Sources	Emission Rate (lb/hr)					
	PM-10	NO_x	SO_2	CO	VOC	Lead
Point Sources						
Emergency Generator	0.38	6.49	0.91	8.04	0.92	
Aggregate to bin	0.93					
Sand to bin	0.21					
Hopper loading	1.14					
Cement Silo Filling	0.02					
Fly Ash Silo Filling	0.02					
Batcher Vent (Cement & Fly Ash)	0.01					5.99E-08
Mix Loading	0.02					3.23E-08
Rock Crusher Generator	1.02	34.82	5.87	7.98	1.02	
Rock Crusher	13.25					
HMA Dryer	5.75	6.5	0.9	32.5	8.0	1.55E-04
Tank Heater	0.02	0.2	0.0	0.2	0.0	1.01E-06
Total	22.76	48.02	7.63	48.69	9.95	1.56E-04
Modeling Threshold	0.2	na	0.2	14.0	na	na
Modeling Required	Yes		Yes	Yes		
Fugitive Sources						
Aggregate Storage	0.55					
Sand Storage	0.12					
Load-out, Silo and Asphalt Tank*	0.28			0.6	4.0	
Storage Pile	0.40					
Conveyors	1.58					
Paved Roads	2.66					
Unpaved Roads	2.96					
Total	31.4	48.0	7.6	49.3	14.0	1.56E-04

Norm's Utility Contractor, Inc.
Portable Hot-Mix Asphalt Plant Permit Application
HMA Criteria Pollutant Emission Summary

	Emission Rate (ton/year)						
Source	PM	PM-10	NO_x	SO_2	CO	VOC	Lead
Point Source							
HMA Dryer	3.5	3.5	3.9	0.5	19.5	4.8	9.30E-05
Tank Heater	0.1	0.1	0.7	0.004	0.6	0.04	3.38E-06
Sum	3.5	3.5	4.6	0.5	20.1	4.8	9.64E-05
Modeling Threshold	na	1.0	1.0	1.0	na	na	0.6
Modeling Required		**Yes**	**Yes**	**No**			No
Fugitive Sources							
Load-out, Silo and Asphalt Tank[a]	0.17	0.17			0.38	2.41	
Storage Pile	0.36	0.36					
Conveyors	1.01	1.01					
Paved Roads	1.66	1.66					
Unpaved Roads	1.85	1.85					
Total	**8.5**	**8.5**	**4.6**	**0.5**	**20.4**	**7.3**	**9.6E-05**

	Emission Rate (lb/hr)						
Source	PM	PM-10	NO_x	SO_2	CO	VOC	Lead
Point Source							
HMA Dryer	5.8	5.8	6.5	0.9	32.5	8.0	1.55E-04
Tank Heater	0.02	0.02	0.2	0.001	0.2	0.01	1.01E-06
Sum	5.8	5.8	6.7	0.9	32.7	8.0	1.56E-04
Modeling Threshold	na	0.2	na	0.2	14.0	na	na
Modeling Required		**Yes**		**Yes**	**Yes**		
Fugitive Sources							
Load-out, Silo and Asphalt Tank[a]	0.3	0.3			0.6	4.0	
Storage Pile	0.4	0.4					
Conveyors	1.7	1.7					
Paved Roads	2.7	2.7					
Unpaved Roads	3.0	3.0					
Total	**13.7**	**13.7**	**6.7**	**0.9**	**33.3**	**12.0**	**1.6E-04**

[a] *Defined as Process Fugitive Emissions, EPA AP-42, Chapter 11.1 Hot Mix Asphalt Plants, (December 2005)*

Norm's Utility Contractor, Inc.
Portable Hot-Mix Asphalt Plant Permit Application
Summary of HAP Emissions

Hazardous Air Pollutants

Pollutant	CAS #	Dryer lb/hr	Tank Heater lb/hr	Load-out Silo lb/hr	Total lb/hr	IDAPA 58.01.01.585/586 - EL (lb/hr)	Compare to EL
Non PAH							
Benzene	71-43-2	9.75E-02	4.23E-06	1.52E-03	9.90E-02	8.00E-04	**Exceeds**
Bromomethane	74-83-9			2.49E-04	2.49E-04	NA	
2-Butanone	78-93-3			1.70E-03	1.70E-03	3.93E+01	Below
Carbon Disulfide	75-15-0			6.23E-04	6.23E-04	2.00E+00	Below
Chloroethane	75-00-3			1.24E-04	1.24E-04	NA	
Chloromethane	74-87-3			8.57E-04	8.57E-04	NA	
Cumene	92-82-8			1.14E-03	1.14E-03	1.63E+01	Below
Ethylbenzene	100-41-4	6.00E-02		4.07E-03	6.41E-02	2.90E+01	Below
Formaldehyde	50-00-0	7.75E-01	1.51E-04	2.19E-02	7.97E-01	5.10E-04	**Exceeds**
Hexane	110-54-3	2.30E-01	3.63E-03	4.61E-03	2.38E-01	1.20E+01	Below
Isooctane (2,2,4-trimethylpentane)	540-84-1	1.00E-02		2.82E-05	1.00E-02	NA	Below
Methyl chloroform	71-55-6	1.20E-02			1.20E-02	1.27E+02	Below
Styrene	100-42-5			2.40E-04	2.40E-04	6.67E+00	Below
Tetrachloroethene	127-18-4			8.01E-05	8.01E-05	1.30E-02	Below
Toluene	108-88-3	3.75E-02	6.85E-06	4.07E-03	4.16E-02	2.50E+01	Below
Trichlorofluoromethane	75-69-4			1.35E-05	1.35E-05	NA	Below
m-/p-Xylene	1330-20-7	5.00E-02		1.04E-02	6.04E-02	2.90E+01	Below
o-Xylene	95-47-6			2.57E-03	2.57E-03	2.90E+01	Below
3-Methylchloranthrene	56-49-5		1.80E-06		1.80E-06	2.50E-06	Below
Naphthalene	91-20-3	2.25E-02	6.10E-04		2.31E-02	3.33E+00	Below
Pentane	109-66-0		2.60E+00		2.60E+00	1.18E+02	Below
Benzo(a)pyrene	50-32-8	1.20E-06	2.42E-09		1.20E-06	2.00E-06	Below
PAH							
2-Methylnaphthalene	91-57-6	1.85E-02			1.85E-02		
Acenaphthene	83-32-9	3.50E-04		5.20E-04	8.70E-04		
Acenaphthylene	208-96-8	2.15E-03		3.28E-05	2.18E-03		
Anthracene	120-12-7	5.50E-05		1.42E-04	1.97E-04		
Benzo(a)anthracene	56-55-3	5.25E-05	3.63E-09	5.17E-05	1.04E-04		
Benzo(a)pyrene	50-32-8	2.45E-06	2.42E-09	1.96E-06	4.41E-06		
Benzo(b)fluoranthene	205-99-2	2.50E-05	3.63E-09	6.48E-06	3.15E-05		
Benzo(e)pyrene	192-97-2	2.75E-05		1.27E-05	4.02E-05		
Benzo(g,h,i)perylene	191-24-2	1.00E-05		1.62E-06	1.16E-05		
Benzo(k)fluoranthene	207-08-9	1.03E-05	3.63E-09	1.88E-06	1.21E-05		
Chrysene	218-01-9	4.50E-05	3.63E-09	2.21E-04	2.66E-04		
Dibenz(a,h)anthracene	53-70-3		2.42E-09	3.15E-07	3.18E-07		
Fluoranthene	206-44-0	1.53E-04		1.38E-04	2.90E-04		
Fluorene	86-73-7	9.50E-04		1.30E-03	2.25E-03		
Indeno(1,2,3-cd)pyrene	193-39-5	1.75E-06	3.63E-09	4.01E-07	2.15E-06		
2-Methylnaphthalene				5.37E-03	5.37E-03		
Perylene	198-55-0	2.20E-06		3.78E-05	4.00E-05		
Phenanthrene	85-01-8	1.90E-03		1.83E-03	3.73E-03		
Pyrene	129-00-0	1.35E-04		4.07E-04	5.42E-04		
Total		1.32E+00		6.43E-02	3.99E+00		

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Norm's Utility Contractor, Inc.
Portable Hot-Mix Asphalt Plant Permit Application
Summary of HAP Emissions

Metal Air Pollutants

Pollutant		Dryer lb/hr	Tank Heater lb/hr	Load-out Silo lb/hr	Total lb/hr	IDAPA 58.01.01.585/586 - EL (lb/hr)	Compare to EL
Antimony	7440-36-0	4.50E-05			4.50E-05	0.033	Below
Arsenic	7440-38-2	1.40E-04	4.03E-07		1.40E-04	1.50E-06	**Exceeds**
Barium	7440-39-3 .	1.45E-03	8.86E-06		1.46E-03	0.33	Below
Beryllium	440-41-7		1.20E-05		1.20E-05	2.80E-05	Below
Cadmium	7440-43-9	1.03E-04	2.22E-06		1.05E-04	3.70E-06	**Exceeds**
Chromium	7440-47-3	1.38E-03	2.82E-06		1.38E-03	5.60E-07	**Exceeds**
Cobalt	7440-48-4	6.50E-06	1.69E-07		6.67E-06	0.0033	Below
Copper	7440-50-8	7.75E-04	1.71E-06		7.77E-04	0.013	Below
Hexavalent chromium	7440-47-3	1.13E-04			1.13E-04	5.60E-07	**Exceeds**
Lead		1.55E-04	1.01E-06		1.56E-04	NA	Below
Manganese	7439-96-5	1.93E-03	7.65E-07		1.93E-03	0.067	Below
Mercury	7439-97-6	6.00E-05	5.24E-07		6.05E-05	0.001	Below
Molybdenum	7439-98-7		2.22E-06		2.22E-06	3.33E-01	Below
Nickel	7440-02-0	1.58E-02	4.23E-06		1.58E-02	2.70E-05	**Exceeds**
Phosphorus	7723-14-0	7.00E-03			7.00E-03	0.007	Below
Silver	7440-22-4	1.20E-04			1.20E-04	0.007	Below
Selenium	7782-49-2	8.75E-05	4.83E-08		8.75E-05	0.013	Below
Thallium	7440-28-0	1.03E-06			1.03E-06	0.007	Below
Vanadium	1314-62-1		4.63E-06		4.63E-06	3.00E-03	Below
Zinc	7440-66-6	1.53E-02	2.90E-02		4.43E-02	0.667	Below
Total		4.44E-02			7.34E-02		

Norm's Utility Contractor, Inc.
Portable Hot-Mix Asphalt Plant Permit Application
Drum Mix Dryer Potential to Emit Calculations

Assumptions:

Rated Capacity	88.2 MMBtu/hr 250 t/hr max throughput rate 300,000 t/yr max throughput rate
Air Pollution Control Device	Baghouse

Fuel:

Natural Gas[a] 1050 Btu/scf

Calculations

Criteria Pollutants[b]

Pollutant	EF	PTE	
	lb/ton HMA	lb/hr	t/yr
NOx	0.026	6.50	3.90
CO	0.13	32.50	19.50
PM-10[c]	0.023	5.75	3.45
SO_2	0.0034	0.85	0.51
VOC	0.032	8.00	4.80

[a] *Heat Value from the United States Environmental Protection Agency (EPA) AP-42, Appendix A, Typical Parameters of Various Fuels, (From web site, December 2005)*

[b] *CO, NO_x, SO_2 from EPA AP-42, Table 11.1-7 (December, 2005), VOC from Table 11.1-8, (December, 2005)*

[c] *Total PM for a dryer with a fabric filter, EPA AP-42, Table 11.1-3 (December 2005). Assume PM is equal to PM-10*

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Norm's Utility Contractor, Inc.
Portable Hot-Mix Asphalt Plant Permit Application
Drum Mix Dryer Potential to Emit Calculations (HAP)

Hazardous Air Pollutants[a]

Pollutant	CAS #	EF lb/ton HMA	PTE lb/hr	PTE t/yr	IDAPA 58.01.01.585/586 - EL (lb/hr)	Comparison
Non PAH						
Acetaldehyde	75-07-0				3.00E-03	
Acrolein	107-02-8				1.70E-02	
Benzene	71-43-2	0.00039	9.75E-02	5.85E-02	8.00E-04	**Exceeds**
Ethylbenzene	100-41-4	0.00024	6.00E-02	3.60E-02	2.90E+01	Below
Formaldehyde	50-00-0	0.0031	7.75E-01	4.65E-01	5.10E-04	**Exceeds**
Hexane	110-54-3	0.00092	2.30E-01	1.38E-01	1.20E+01	Below
Isooctane (2,2,4-trimethylpentane)	540-84-1	4.00E-05	1.00E-02	6.00E-03	NA	
Methyl chloroform	71-55-6	4.80E-05	1.20E-02	7.20E-03	1.27E+02	Below
Toluene	108-88-3	0.00015	3.75E-02	2.25E-02	2.50E+01	Below
Xylene	1330-20-7	0.0002	5.00E-02	3.00E-02	2.90E+01	Below
PAH						
2-Methylnaphthalene	91-57-6	7.40E-05	1.85E-02	1.11E-02		
Acenaphthene	83-32-9	1.40E-06	3.50E-04	2.10E-04		
Acenaphthylene	208-96-8	8.60E-06	2.15E-03	1.29E-03		
Anthracene	120-12-7	2.20E-07	5.50E-05	3.30E-05		
Benzo(a)anthracene	56-55-3	2.10E-07	5.25E-05	3.15E-05		
Benzo(a)pyrene	50-32-8	9.80E-09	2.45E-06	1.47E-06		
Benzo(b)fluoranthene	205-99-2	1.00E-07	2.50E-05	1.50E-05		
Benzo(e)pyrene	192-97-2	1.10E-07	2.75E-05	1.65E-05		
Benzo(g,h,i)perylene	191-24-2	4.00E-08	1.00E-05	6.00E-06		
Benzo(k)fluoranthene	207-08-9	4.10E-08	1.03E-05	6.15E-06		
Chrysene	218-01-9	1.80E-07	4.50E-05	2.70E-05		
Fluoranthene	206-44-0	6.10E-07	1.53E-04	9.15E-05		
Fluorene	86-73-7	3.80E-06	9.50E-04	5.70E-04		
Indeno(1,2,3-cd)pyrene	193-39-5	7.00E-09	1.75E-06	1.05E-06		
Naphthalene	91-20-3	9.00E-05	2.25E-02	1.35E-02		
Perylene	198-55-0	8.80E-09	2.20E-06	1.32E-06		
Phenanthrene	85-01-8	7.60E-06	1.90E-03	1.14E-03		
Pyrene	129-00-0	5.40E-07	1.35E-04	8.10E-05		
Total for Comparison[c]			1.84E-04		9.10E-05	**Exceeds**
Total			1.32E+00	7.91E-01		

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Norm's Utility Contractor, Inc.
Portable Hot-Mix Asphalt Plant Permit Application
Drum Mix Dryer Potential to Emit Calculations (HAP)
Metal Air Pollutants [b]

Pollutant	CAS	EF	PTE		IDAPA 58.01.01.585/586 - EL	Comparison
		lb/ton HMA	lb/hr	t/hr	(lb/hr)	
Antimony	7440-36-0	1.80E-07	4.50E-05	2.70E-05	0.033	Below
Arsenic	7440-38-2	5.60E-07	1.40E-04	8.40E-05	1.50E-06	**Exceeds**
Barium	7440-39-3	5.80E-06	1.45E-03	8.70E-04	0.33	Below
Cadmium	7440-43-9	4.10E-07	1.03E-04	6.15E-05	3.70E-06	**Exceeds**
Chromium	7440-47-3	5.50E-06	1.38E-03	8.25E-04	5.60E-07	**Exceeds**
Cobalt	7440-48-4	2.60E-08	6.50E-06	3.90E-06	0.0033	Below
Copper	7440-50-8	3.10E-06	7.75E-04	4.65E-04	0.013	Below
Hexavalent chromium	7440-47-3	4.50E-07	1.13E-04	6.75E-05	5.60E-07	**Exceeds**
Lead		6.20E-07	1.55E-04	9.30E-05		
Manganese	7439-96-5	7.70E-06	1.93E-03	1.16E-03	0.067	Below
Mercury	7439-97-6	2.40E-07	6.00E-05	3.60E-05	0.001	Below
Nickel	7440-02-0	6.30E-05	1.58E-02	9.45E-03	2.70E-05	**Exceeds**
Phosphorus	7723-14-0	2.80E-05	7.00E-03	4.20E-03	0.007	Below
Silver	7440-22-4	4.80E-07	1.20E-04	7.20E-05	0.007	Below
Selenium	7782-49-2	3.50E-07	8.75E-05	5.25E-05	0.013	Below
Thallium	7440-28-0	4.10E-09	1.03E-06	6.15E-07	0.007	Below
Zinc	7440-66-6	6.10E-05	1.53E-02	9.15E-03	0.667	Below
Total			4.44E-02	2.66E-02		

[a] *EPA AP-42, Table 11.1-10, (December, 2005)*
[b] *EPA AP-42, Table 11.1-12, (December, 2005)*
[c] *As listed in IDAPA 58.01.01.586 (December, 2005)*

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Norm's Utility Contractor, Inc.
Portable Hot-Mix Asphalt Plant Permit Application
Asphalt Storage Tank Heater Potential to Emit Calculations

Assumptions

Natural Gas Heat Input Rating (MM Btu/hr)	2.115	
Natural Gas Heat Value (Btu/scf)[a]	1050	
Theoretical Max Natural Gas Usage (scf/hr)	2,014	13.536
Potential Hours on Natural Gas[b] (hr/yr)	6,720	

Criteria Pollutant Calculations[c]

Pollutant	EF	PTE	
	(lb/10^6 scf)	lb/hr	t/yr
PM	7.6	0.02	0.05
SO_2	0.6	0.0012	0.0041
NOx	100	0.20	0.68
CO	84	0.17	0.57
VOC	5.5	0.01	0.04
Lead	0.0005	1.01E-06	3.38E-06

Idaho Toxic Air Pollutants

Organics[d]

Pollutant	CAS No.	EF	PTE		Level 1 IDAPA 58.01.01.585/586	Comparison
		(lb/10^6 scf)	(lb/hr)	(t/yr)	(lb/hr)	
3-Methylchloranthrene	56-49-5	1.80E-06	3.63E-09	1.22E-08	2.50E-06	Below
Benzene	71-43-2	2.10E-03	4.23E-06	1.42E-05	8.00E-04	Below
Benzo(a)pyrene	50-32-8	1.20E-06	2.42E-09	8.12E-09	2.00E-06	Below
Formaldehyde	50-00-0	7.50E-02	1.51E-04	5.08E-04	5.10E-04	Below
Hexane	110-54-3	1.80E+00	3.63E-03	1.22E-02	1.20E+01	Below
Naphthalene	91-20-3	6.10E-04	1.23E-06	4.13E-06	3.33E+00	Below
Pentane	109-66-0	2.60E+00	5.24E-03	1.76E-02	1.18E+02	Below
Toluene	108-88-3	3.40E-03	6.85E-06	2.30E-05	2.50E+01	Below
Benzo(a)anthracene		1.80E-06	3.63E-09	1.22E-08		
Benzo(a)pyrene		1.20E-06	2.42E-09	8.12E-09		
Benzo(b)fluoroanthene		1.80E-06	3.63E-09	1.22E-08		
Benzo(k)fluoroanthene		1.80E-06	3.63E-09	1.22E-08		
Chrysene		1.80E-06	3.63E-09	1.22E-08		
Dibenzo(a,h)anthracene		1.20E-06	2.42E-09	8.12E-09		
Indeno(1,2,3-cd)pyrene		1.80E-06	3.63E-09	1.22E-08		
Total IDAPA PAH			2.30E-08	7.72E-08	9.10E-05	Below

Metals[e]

Pollutant	CAS No.	Natural Gas EF			Level 1 IDAPA 58.01.01.585/586	Comparison
			BOIL1	BOIL2		
		(lb/10^6 scf)	(lb/hr)	(lb/hr)	(lb/hr)	
Arsenic	7440-38-2	2.00E-04	4.03E-07	6.72E-04	1.50E-06	Below
Barium	7440-39-3	4.40E-03	8.86E-06	1.48E-02	3.30E-02	Below
Beryllium	7440-41-7	1.20E-05	2.42E-08	4.03E-05	2.80E-05	Below
Cadmium	7440-43-9	1.10E-03	2.22E-06	3.70E-03	3.70E-06	Below
Chromium	7440-47-3	1.40E-03	2.82E-06	4.70E-03	3.30E-02	Below
Cobalt	7440-48-4	8.40E-05	1.69E-07	2.82E-04	3.30E-03	Below
Copper	7440-50-8	8.50E-04	1.71E-06	2.86E-03	1.30E-02	Below
Manganese	7439-96-5	3.80E-04	7.65E-07	1.28E-03	6.70E-02	Below
Mercury	7439-97-6	2.60E-04	5.24E-07	8.74E-04	1.00E-03	Below
Molybdenum	7439-98-7	1.10E-03	2.22E-06	3.70E-03	3.33E-01	Below
Nickel	7440-02-0	2.10E-03	4.23E-06	7.06E-03	2.75E-05	Below
Selenium	7782-49-2	2.40E-05	4.83E-08	8.06E-05	1.30E-02	Below
Vanadium	1314-62-1	2.30E-03	4.63E-06	7.73E-03	3.00E-03	Below
Zinc	7440-66-6	2.90E-02	5.84E-05	9.74E-02	3.33E-01	Below

Notes:

[a] *Fuel heat values from EPA AP-42, Appendix A (December 2005)*

[b] *Potential hours of operation 52 weeks at 18 hours and 7days.*

[c] *Criteria Pollutants EPA AP-42, Section 1.4, Tables 1.4-1 and 1.4-2 & Section 1.3, Tables 1.3-1, 1.3-2 and 1.3-5 (December 2005)*

[d] *OrganicToxic Air Pollutants EPA AP-42, Section 1.4, Table 1.4-3 & Section 1.3, Table 1.3-9 (December 2005)*

[e] *Metals from EPA AP-42, Section 1.4, Table 1.4-4 & Section 1.3, Table 1.3-10 (December 2005)*

Norm's Utility Contractor, Inc.
Portable Hot-Mix Asphalt Plant Permit Application
Load-out, Silo and Asphalt Tank Potential to Emit Calculations

Assumptions:

Asphalt volatility, V[a]	-0.5
Mix Temperature[a]	325 °F
% VOC in load out TOC[b]	94 %
% VOC in Silo TOC[b]	100 %
Max hourly throughput	250 tons
Max yearly throughput	300,000 tons

Calculations[a]

Load-out Total PM EF $= 0.000181+0.00141(-V)e^{((0.0251)(T+460)-20.43)}$
$= 0.0005$ lb / t

Silo Total PM EF $= 0.000332+0.00105(-V)e^{((0.0251)(T+460)-20.43)}$
$= 0.0006$ lb / t

Load-out Total CO EF $= 0.00558(-V)e^{((0.0251)(T+460)-20.43)}$
$= 0.0013$ lb / t

Silo Total CO EF $= 0.00488(-V)e^{((0.0251)(T+460)-20.43)}$
$= 0.0012$ lb / t

Load-out Total TOC EF $= 0.0172(-V)e^{((0.0251)(T+460)-20.43)}$
$= 0.0042$ lb / t

Silo Total TOC EF $= 0.0504(-V)e^{((0.0251)(T+460)-20.43)}$
$= 0.0122$ lb / t

Load-out Organic PM EF[c] $= 0.00141(-V)e^{((0.0251)(T+460)-20.43)}$
$= 0.0003$ lb / t

Silo Organic PM EF[c] $= 0.00105(-V)e^{((0.0251)(T+460)-20.43)}$
$= 0.0003$ lb / t

Criteria Pollutants

Load-out and Yard Emissions	PM		CO		VOC	
	lb	ton	lb	ton	lb	ton
Max hourly	0.13	6.52E-05	0.34	1.69E-04	0.98	4.89E-04
Max yearly	156.58	0.08	404.77	0.20	1,172.82	0.59
Silo Filling and Storage	PM		CO		VOC	
	lb	ton	lb	ton	lb	ton
Max hourly	0.15	7.32E-05	0.29	1.47E-04	3.05	1.52E-03
Max yearly	175.77	0.09	353.99	0.18	3,656.01	1.83
Total hourly	**0.28**	**1.38E-04**	**0.63**	**3.16E-04**	**4.02**	**2.01E-03**
Total yearly	**332.35**	**0.17**	**758.77**	**0.38**	**4828.83**	**2.41**

[a] *EPA AP-42, Table 11.1-14, constants and equations, (December 2005)*
[b] *EPA AP-42, Table 11.1-16, (December, 2005)*
[c] *Used for HAP calculations on next page.*

Norm's Utility Contractor, Inc.
Portable Hot-Mix Asphalt Plant Permit Application
Load-out, Silo Filling and Asphalt Tank Potential to Emit Calculations (HAP)

Hazardous Air Pollutants[a,b]

Pollutant	CAS #	Load-out speciation	Silo and Asphalt tank speciations	Load-out hourly lb	Load-out hourly ton	Load-out yearly lb	Load-out yearly ton	Silo and Tank hourly lb	Silo and Tank hourly ton	Silo and Tank yearly lb	Silo and Tank yearly ton	Total hourly lb	Total hourly ton	Total yearly lb	Total yearly ton	IDAPA 58.01.01 585/586 - EL (lb/hr)	Compare to EL
PAH HAPs																	
Acenaphthene	83-32-9	0.26%	0.47%	2.22E-04	1.11E-07	2.66E-01	1.33E-04	2.98E-04	1.49E-07	3.58E-01	1.79E-04	5.20E-04	2.60E-07	6.24E-01	3.12E-04		
Acenaphthylene	208-96-8	0.03%	0.01%	2.39E-05	1.19E-08	2.86E-02	1.43E-05	8.88E-06	4.44E-09	1.07E-02	5.33E-06	3.28E-05	1.64E-08	3.93E-02	1.97E-05		
Anthracene	120-12-7	0.07%	0.13%	5.97E-05	2.98E-08	7.16E-02	3.58E-05	8.25E-05	4.13E-08	9.90E-02	4.95E-05	1.42E-04	7.11E-08	1.71E-01	8.53E-05		
Benzo(a)anthracene	56-55-3	0.02%	0.056%	1.62E-05	8.10E-09	1.94E-02	9.72E-06	3.55E-05	1.78E-08	4.27E-02	2.13E-05	5.17E-05	2.59E-08	6.21E-02	3.10E-05		
Benzo(b)fluoranthene	205-99-2	0.0076%	ND	6.48E-06	3.24E-09	7.77E-03	3.89E-06					6.48E-06	3.24E-09	7.77E-03	3.89E-06		
Benzo(k)fluoranthene	207-08-9	0.0022%	ND	1.88E-06	9.38E-10	2.25E-03	1.13E-06					1.88E-06	9.38E-10	2.25E-03	1.13E-06		
Benzo(g,h,i)perylene	191-24-2	0.0019%	ND	1.62E-06	8.10E-10	1.94E-03	9.72E-07					1.62E-06	8.10E-10	1.94E-03	9.72E-07		
Benzo(a)pyrene	50-32-8	0.0023%	ND	1.96E-06	9.80E-10	2.35E-03	1.18E-06					1.96E-06	9.80E-10	2.35E-03	1.18E-06		
Benzo(e)pyrene	192-97-2	0.0078%	0.0095%	6.65E-06	3.32E-09	7.98E-03	3.99E-06	6.03E-06	3.01E-09	7.24E-03	3.62E-06	1.27E-05	6.34E-09	1.52E-02	7.61E-06		
Chrysene	218-01-9	0.103%	0.21%	8.78E-05	4.39E-08	1.05E-01	5.27E-05	1.33E-04	6.66E-08	1.60E-01	8.00E-05	2.21E-04	1.11E-07	2.65E-01	1.33E-04		
Dibenz(a,h)anthracene	53-70-3	0.0004%	ND	3.15E-07	1.58E-10	3.78E-04	1.89E-07					3.15E-07	1.58E-10	3.78E-04	1.89E-07		
Fluoranthene	206-44-0	0.050%	0.15%	4.26E-05	2.13E-08	5.11E-02	2.56E-05	9.52E-05	4.76E-08	1.14E-01	5.71E-05	1.38E-04	6.89E-08	1.65E-01	8.27E-05		
Fluorene	86-73-7	0.77%	1.01%	6.56E-04	3.28E-07	7.88E-01	3.94E-04	6.41E-04	3.21E-07	7.69E-01	3.85E-04	1.30E-03	6.49E-07	1.56E+00	7.78E-04		
Indeno(1,2,3-cd)pyrene	193-39-5	0.00047%	ND	4.01E-07	2.00E-10	4.81E-04	2.40E-07					4.01E-07	2.00E-10	4.81E-04	2.40E-07		
2-Methylnaphthalene	91-57-6	2.38%	5.27%	2.03E-03	1.01E-06	2.43E+00	1.22E-03	3.34E-03	1.67E-06	4.01E+00	2.01E-03	5.37E-03	2.68E-06	6.45E+00	3.22E-03		
Naphthalene	91-20-3	1.25%	1.82%	1.07E-03	5.33E-07	1.28E+00	6.39E-04	1.16E-03	5.78E-07	1.39E+00	6.93E-04	2.22E-03	1.11E-06	2.66E+00	1.33E-03		
Perylene	198-55-0	0.02%	0.03%	1.88E-05	9.38E-09	2.25E-02	1.13E-05	1.90E-05	9.52E-09	2.28E-02	1.14E-05	3.78E-05	1.89E-08	4.54E-02	2.27E-05		
Phenanthrene	85-01-8	0.81%	1.80%	6.90E-04	3.45E-07	8.28E-01	4.14E-04	1.14E-03	5.71E-07	1.37E+00	6.86E-04	1.83E-03	9.16E-07	2.20E+00	1.10E-03		
Pyrene	129-00-0	0.15%	0.44%	1.28E-04	6.39E-08	1.53E-01	7.67E-05	2.79E-04	1.40E-07	3.35E-01	1.68E-04	4.07E-04	2.04E-07	4.89E-01	2.44E-04		
Total for Comparison[c]												2.96E-04	1.48E-07			9.10E-05	Exceeds
Other Semi-Volatile																	
Phenol		1.18%	ND	1.01E-03	5.03E-07	1.21E+00	6.03E-04					1.01E-03	5.03E-07	1.21E+00	6.03E-04		
Volatile Organic																	
Benzene	71-43-2	0.052%	0.032%	5.41E-04	2.70E-07	6.49E-01	3.24E-04	9.75E-04	4.87E-07	1.17E+00	5.85E-04	1.52E-03	7.58E-07	1.82E+00	9.09E-04	8.00E-04	Exceeds
Bromomethane	74-83-9	0.010%	0.0049%	9.98E-05	4.99E-08	1.20E-01	5.99E-05	1.49E-04	7.46E-08	1.79E-01	8.95E-05	2.49E-04	1.25E-07	2.99E-01	1.49E-04	NA	Below
2-Butanone	78-93-3	0.049%	0.039%	5.09E-04	2.55E-07	6.11E-01	3.06E-04	1.19E-03	5.94E-07	1.43E+00	7.13E-04	1.70E-03	8.49E-07	2.04E+00	1.02E-03	3.93E+01	Below
Carbon Disulfide	75-15-0	0.013%	0.0160%	1.35E-04	6.76E-08	1.62E-01	8.11E-05	4.87E-04	2.44E-07	5.85E-01	2.92E-04	6.22E-04	3.11E-07	7.47E-01	3.74E-04	2.00E+00	Below
Chloroethane	75-00-3	0.00021%	0.004%	2.18E-06	1.09E-09	2.62E-03	1.31E-06	1.22E-04	6.09E-08	1.46E-01	7.31E-05	1.24E-04	6.20E-08	1.49E-01	7.44E-05	NA	Below
Chloromethane	74-87-3	0.015%	0.023%	1.56E-04	7.80E-08	1.87E-01	9.36E-05	7.01E-04	3.50E-07	8.41E-01	4.20E-04	8.57E-04	4.28E-07	1.03E+00	5.14E-04	NA	Below
Cumene	98-82-8	0.110%	ND	1.14E-03	5.72E-07	1.37E+00	6.86E-04					1.14E-03	5.72E-07	1.37E+00	6.86E-04	1.60E+01	Below
Ethylbenzene	100-41-4	0.28%	0.04%	2.91E-03	1.46E-06	3.49E+00	1.75E-03	1.16E-03	5.79E-07	1.39E+00	6.95E-04	4.07E-03	2.03E-06	4.88E+00	2.44E-03	2.90E+01	Below
Formaldehyde	50-00-0	0.088%	0.69%	9.15E-04	4.57E-07	1.10E+00	5.49E-04	2.10E-02	1.05E-05	2.52E+01	1.26E-02	2.19E-02	1.10E-05	2.63E+01	1.32E-02	5.10E-04	Exceeds
n-Hexane	110-54-3	0.150%	0.10%	1.56E-03	7.80E-07	1.87E+00	9.36E-04	3.05E-03	1.52E-06	3.66E+00	1.83E-03	4.61E-03	2.30E-06	5.53E+00	2.76E-03	NA	Below
Isooctane	540-84-1	0.0018%	0.00%	1.87E-05	9.36E-09	2.25E-02	1.12E-05	9.44E-06	4.72E-09	1.13E-02	5.67E-06	2.82E-05	1.41E-08	3.38E-02	1.69E-05	NA	Below
Methylene Chloride	75-09-2	0.00%	0.0003%					8.23E-06	4.11E-09	9.87E-03	4.94E-06	8.23E-06	4.11E-09	9.87E-03	4.94E-06	1.60E-03	Below
MTBE	1634044	0.00%	ND													NA	Below
Styrene	100-42-5	0.0073%	0.0054%	7.59E-05	3.80E-08	9.11E-02	4.55E-05	1.65E-04	8.23E-08	1.97E-01	9.87E-05	2.40E-04	1.20E-07	2.88E-01	1.44E-04	6.67E+00	Below
Tetrachloroethene	127-18-4	0.0077%	ND	8.01E-05	4.00E-08	9.61E-02	4.80E-05					8.01E-05	4.00E-08	9.61E-02	4.80E-05	1.30E-02	Below
Toluene	108-88-3	0.21%	0.06%	2.18E-03	1.09E-06	2.62E+00	1.31E-03	1.89E-03	9.44E-07	2.27E+00	1.13E-03	4.07E-03	2.04E-06	4.89E+00	2.44E-03	2.50E+01	Below
1,1,1-Trichloroethane	71-55-6	0.00%	ND	0.00E+00	0.00E+00	0.00E+00	0.00E+00									NA	Below
Trichloroethene	79-01-6	0.00%	ND	0.00E+00	0.00E+00	0.00E+00	0.00E+00									NA	Below
Trichlorofluoromethane	75-69-4	0.0013%	ND	1.35E-05	6.76E-09	1.62E-02	8.11E-06					1.35E-05	6.76E-09	1.62E-02	8.11E-06	NA	Below
m-/p-Xylene	1330-20-7	0.41%	0.20%	4.26E-03	2.13E-06	5.12E+00	2.56E-03	6.09E-03	3.05E-06	7.31E+00	3.66E-03	1.04E-02	5.18E-06	1.24E+01	6.21E-03	2.90E+01	Below
o-Xylene	95-47-6	0.08%	0.057%	8.32E-04	4.16E-07	9.98E-01	4.99E-04	1.74E-03	8.68E-07	2.08E+00	1.04E-03	2.57E-03	1.28E-06	3.08E+00	1.54E-03	2.90E+01	Below
Total												6.76E-02	3.38E-05	8.10E+01	4.05E-02		

[a] EPA AP-42, Table 11.1-15 (December 2000)
[b] EPA AP-42, Table 11.1-16, (December 2000)
[c] As listed in IDAPA 58.01.01.586

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Norm's Utility Contractor, Inc.
Portable Hot-Mix Asphalt Plant Permit Application
Aggregate Handling and Storage Piles Potential to Emit Calculations

Assumptions:

Mean Wind Speed[a], U	9.74 mph	
Moisture Content, M	2.5 % Coarse aggregate 6 % Sand	
Particle Size Multiplier (<10μm), k	0.35	
Hours Operation	6720 hrs/yr	
1 ft^3 aggregate[b]	126 lbs	
1 Rock storage pile	900,000 ft^3 each.	56,700 tons each
(2 rock and 1 sand)	450,000 ft^3 each.	28,350 tons each
Rock to Sand Mix	75:25	

Calculations

PM-10 EF[c] = k*(0.0032)*(U/5)1.3/(M/2)1.4
= 0.002 lb / t coarse aggregate
= 0.001 lb / t sand

Emissions based on 250 t/hr production rate:

agg. max rate	187.5 t/hr	sand max rate	62.5 t/hr			
PM-10 =	**0.37 lb/hr**	**=**	**0.04 lb/hr**	**Total**	**0.40**	**lb/hr**
PM-10 =	**1.83E-04 t/hr**	**=**	**1.79E-05 t/hr**		**0.00**	**t/hr**

Emissions based on max year throughput (300,000 tpy) rate and storage capacity:

agg. max rate	225,000 t/yr	sand max rate	75,000 t/yr			
agg. storage	113,400 t	sand storage	28,350 t			
total agg.	338,400 t/yr	total sand	103,350 t/yr			
PM-10 =	**659.84 lb/yr**	**=**	**59.16 lb/yr**	**Total**	**719**	**lb/yr**
PM-10 =	**0.33 t/yr**	**=**	**0.03 t/yr**		**0.36**	**t/yr**

[a] *Wind Speed provide by IDEQ, Email August 2005, Spokane Met data 1987-1991*
[b] *EPA-AP-42, Appendix A, (December 2005)*
[c] *EPA AP-42, Equation 13.2.4-1 (December 2005)*

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Norm's Utility Contractor, Inc.
Portable Hot-Mix Asphalt Plant Permit Application
Conveyor Potential to Emit Calculations

PM-10 Emission Factors[a]

Conveyor Transfer Point	0.0011	lb/ton processed
Truck Loading Conveyor	0.0001	lb/ton processed

Assumptions

Transfer Points: 6 on main system

Max hourly throughput	250	tons/hr
Max yearly throughput	300,000	tons/yr

Calculations

Emissions based max hourly throughput rate:

Transfer	1.65	lb/hr	8.25E-04	t/hr
Loading	0.03	lb/hr	0.0000125	t/hr
Total PM-10	**1.68**	**lb/hr**	**8.38E-04**	**t/hr**

Emissions based on max year throughput rate:

Transfer	1980.00	lb/yr	0.99	t/yr
Loading	30.00	lb/yr	0.02	t/yr
Total PM-10	**2010.00**	**lb/yr**	**1.01**	**t/yr**

[a] *EPA AP-42, Table 11.19.2-2, (December 2005)*

Norm's Utility Contractor, Inc.
Portable Hot-Mix Asphalt Plant Permit Application
Paved Road Traffic Potential to Emit Calculations

Assumptions:

Emission Factors for 1980's Vehicle Fleet, C (PM-10)[a]	0.00047	lb/vehicle mile traveled (vmt)	
Particle Size Multiplier, k (PM-10)[b]	0.016	lb/vmt	
Silt Loading (sL)[c]	120.0	g/m2	
Average weight of vehicles traveling road, W	12.8	tons	(20%, 40 ton dump trucks and 80%, 6 ton trucks)
Amount of paved road at facility	0.11	miles	
Max hourly throughput	250	ton/hr	
Max yearly throughput	300,000	ton/yr	
Number of round trips per hour	12		
Number of round trips per year	15000		

Calculations

$$PM\text{-}10\ EF^{d} = k(sL/2)^{0.65} \times (W/3)^{1.5} - C$$
$$= 2.018 \text{ lb / vmt}$$

PM-10	0.222	lb
	1.1E-04	tons
PM-10 max hourly	**2.7**	**lb/hr**
	1.33E-03	**t/hr**
PM-10 yearly	**3,330**	**lb/yr**
	1.7	**t/yr**

[a] *EPA AP-42, Table 13.2.1-1, (December 2005)*
[b] *EPA AP-42, Table 13.2.1-2, (December 2005)*
[c] *EPA AP--42, Table 13.2.1-4, (December 2005)*
[d] *EPA AP-42, Equation 13.2.1-1, (December 2005)*

Norm's Utility Contractor, Inc.
Portable Hot-Mix Asphalt Plant Permit Application
Unpaved Road Traffic Potential to Emit Calculations

Assumptions:

Particle Size Multiplier, k (PM-10)[a]	1.5 lb/vmt	
Silt Content[b]	4.8 %	
a (PM-10)[a]	0.9	
b (PM-10)[a]	0.45	
Average weight of vehicles traveling road, W	23 tons	(50%, 40 ton dump trucks and 50%, 6 ton trucks)
Amount of unpaved road at facility	0.15 miles	
Max hourly throughput	250 ton/hr	
Max yearly throughput	300,000 ton/yr	
Number of round trips per hour	12	
Number of round trips per year	15000	

Calculations

$$PM\text{-}10\ EF^{c} = k(s/12)^{a}x(W/3)^{b}$$
$$= 1.644 \text{ lb / vmt}$$

PM-10	0.247 lb
	1.2E-04 tons
PM-10 max hourly	**3.0 lb/hr**
	1.48E-03 t/hr
PM-10 yearly	**3,700 lb/yr**
	1.8 t/yr

[a] *EPA AP-42, Table 13.2.2-2, (Air CHIEF, April 2004)*
[b] *EPA AP--42, Table 13.2.2-1, (Air CHIEF, April 2004)*
[c] *EPA AP-42, Equation 13.2.2-1a, (Air CHIEF, April 2004)*

Norm's Utility Contractor, Inc.
Portable Hot-Mix Asphalt Plant Permit Application
Grain Loading Standard

Source Information

Manufacturer:	Cedarapids
Model No:	8835
Fuel:	Natural Gas

Dryer Data

PM Emission Rate:	5.75	lb/hr

Exit/Flue Gas Flow Rate Calculation

ACFM*	52,800 acfm
Stack Temperature*	790.8 R
Stack Pressure*	30.3 inHg
Stack Moisture*	27.4 %
Exit flow rate:	= ACFM(Std T(°R)/Stack T(°R))(Stack P (inHg)/Std P(inHg))((100-%H20)/100))
Exit flow rate: =	25,919 dscfm

Grain loading

Calculated: Natural Gas	0.03 gr/dscf
NSPS Loading Standard [40 CFR 60.92(a)(1)]:	0.04 gr/dscf

Result:	**Meet the grain loading standard:**	**Yes**

* *Supplied by Norm's Utility Inc.*

Norm's Utility Contractor, Inc.
Portable Hot-Mix Asphalt Plant Permit Application
Asphalt Storage Tank Heater Grain Loading Calculation

Boiler Data

Rated Heat Input:	2.115 MMBtu/hr
PM Emission Rate:	0.02 lb/hr
Fuel:	**Natural Gas**

Exit/Flue Gas Flowrate Calculaiton

Fd (Table 19.2 EPA Method 19)	8710 dscf/MMBtu
Exit flowrate @ 0% O2:	307.0 dscfm
Exit flowrate @ 3% O2:	358.5 dscfm

Grain loading

Calculated:	0.005 gr/dscf
Loading Standard (IDAPA 58.01.01.675):	0.015 gr/dscf

Result:	**Meet the grain loading standard:**	**Yes**

DEQ Verification Worksheets: HMA Drum Mix Facility Data-UNCONTROLLED

Facility ID/AIRS No.	777-00372	Spreadsheet Date	3/13/2006 16:51
Permit No.	P-060100	HMA Type: Drum Mix or Batch ?	Drum Mix
		Include Silo Fill & Loadout Emissions'	1
Facility Owner/Company Name:	Norm's Utility Contractor, Inc, Rathdrum, Portable HMA		
Address:	P.O. Box 2047		
City, State, Zip:	Coeur d'Alene, Idaho 83816		
Facility Contact	Tom Mattix		
Contact Number/ e-mail:	(208) 661-5076		
Is this HMA facility subject to NSPS? Yes=1,No=0	1	Commenced Operations in:	1991
Use Short Term Source Factor on 586 ELs? Y or N	N	Use STSF on 586 AACC? Y/N	N
Hot Mix Plant AP-42 Section 11.1)	Input (Bold Color) or Calculated Value (Black)	Fuel Type(s)	Fuel Type Toggle ("0" or "1")
Drum Dryer Make/Model	Cedarapids 8836	#2 Fuel Oil	0
Rated heat input capacity, MMBtu/hr	88.2	Used Oil or RFO4 Oil	0
Drum Dryer Hourly Throughput, Tons/hr	250	Natural Gas	1
Hours of operation per day	24	LPG or Propane	0
Hours of operation per year (=Throughput: Annual/Hourly)	8,760	Exit Gas Volume (acfm)	52,800
Max Throughput at Annual Hours, Tons/yr	2,190,000	Exit Gas Temperature (°F)	331.13
Max Throughput (Proposed Limit), T/yr	2,190,000	Stack Pressure (in Hg)	30.300
Used Oil max sulfur content (Default is 0.5%)	0.50%	Stack Moisture Content, %	27.40

Proposed hours per year = 2,800. Annual hours of operation based on max hourly and annual throughput is only 1,200

Asphalt Tank Heater AP-42, Section 11.1 (oil or natural gas fuel), or Section 1.4 (natural gas fuel)

Rated heat input capacity (MMBtu)	2.115	Fuel Type(s)	Fuel Toggle
Hours of operation per day	24.00	#2 Fuel Oil	0
Operation, days per year	365	Used Oil	0
Hours of operation per year	8,760	Natural Gas	1
Exit Flow (acfm) or Velocity (fps) ACFM	850	Indirect Heat or Power? Y or N	N
Exhaust exit gas temperature (°F)	450		

Tank Heater Fuel Consumption	#2 Fuel Oil	Natural Gas
Heat Input Rating (MMBtu/hr)	2.115	2.115
Fuel Heating Value, Btu/gal (oil) or Btu/scf (gas)	139,000	1,050
Heating Value Correction for Natural Gas EFs, see Note	n/a	1.029
Theoretical Max Fuel Use Rate gal/hr [oil] or scf/hr [gas]	15.22	2,014
Max Operational Hours per Year (Proposed Limit)	8,760	8,760

Note: AP-42 EFs for natural gas combustion (Tables 1.4-xx) are based on heat value of 1,020 Btu/scf.
EFs for other fuel heating values must be multiplied by the ratio of the specified heating value to 1,020.

Electrical Generator < 600 hp (447 kW) AP-42 Section 3.3 (diesel fueled)

		Fuel Type(s)	Fuel Toggle
Generator Make/Model	Make/Model	#2 Fuel Oil (Diesel)	0
	xxx kW	Gasoline	0
EF OPTIONS: Use EFs in lb/hp-hr	0	Use EFs in lb/MMBtu	0
1) Input Rated Capacity, kW	320	Max Fuel Use Rate, gal/hr	23
Spreadsheet conversion from kW to hp:	429	Fuel Heating Value, Btu/gal	137,030
OR 2) Input Rated Capacity, hp		Calculated MMBtu/hr	3.1517
Max Operational Hours/Day	0	Max Operational Hours/Day	0
Max Operational Hours per Year (Proposed Limit)	0	Max Operational Hours/Year	0
Note: 1 hp = 0.7456999 kW			

Electrical Generator > 600 hp (447 kW) AP-42 Section 3.4 (diesel or dual fuel)

		Fuel Type(s)	Fuel Toggle
Generator Make/Model	Make/Model	#2 Fuel Oil (Diesel)	0
	xxx kW	Dual Fuel (diesel/natural gas)	0
FUEL OPTIONS: #2 Fuel Oil (Diesel)		Natural Gas Fuel	
Max Sulfur weight percent (w/o)	0.5	Max Sulfur w/o	0.5
Max Fuel Use Rate, gal/hr	54.81	Max Fuel Use Rate, scf/hr	1000.0
Fuel Heating Value, Btu/gal	137,030	Fuel Heating Value, Btu/scf	1,020
Calculated MMBtu/hr	7.51	Calculated MMBtu/hr	1.020
Max Operational Hours per Day	24	Max Operational Hours per Day	0
Max Operational Hours per Year	5,314	Max Operational Hours per Year	5,314

Note: AP-42 Table 3.4-1 EFs presume dual fuel operation of 5% diesel and 95% natural gas.
Note: AP-42 Tables 3.3-x,3.4-x: avg diesel heating value assumed 19,300 Btu/lb with density equal 7.1 lb/gal=> Btu/gal = 137,030

HMA Drum Mix Fabric Filter Toolkit_B1-Facility Data Input_Version C_02/17/2006 Page 1

Tier I Applicability Determination (Major Source as defined in IDAPA 58.01.01.008)

Hourly Throughput	250	T/hr
Annual Hours Operating	8,760	hrs/yr
Max Annual Throughput	2,190,000	Tons/yr (Theoretical Maximum HMA at Max. Annual Operating Hours)
Max Annual Throughput	2,190,000	Tons/yr (Proposed HMA Throughput Limit)

Potential to Emit (PTE)[1]: The maximum capacity of a facility to emit an air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of the facility to emit an air pollutant, provided the limitation or its effect on emissions is state or federally enforceable, shall be treated as part of its design. Limitations may include, but are not limited to, air pollution control equipment and restrictions on hours of operation or on the type or amount of materials combusted, stored, or processed. [58.01.01.006.72]

[1]PTE includes emissions from point sources, as applicable (drum dryer, tank heater, and generator). Fugitive emissions are NOT included.

Annual Emissions of CAA Title V Hazardous Air Pollutants[3] (total PTE from HMA facility)

IDAPA 58.01.01.xx	Pollutant	Tier I Major Source Definition (T/yr)	PTE Maximum T/yr
008.10.a	Emit any HAP[4] >	10	3.40
008.10.a	Emit total HAPs[5]>	25	6.01

[3] Per 58.01.01.008.10.a: HAPs are defined as pollutants listed pursuant to 42 U.S.C. 7412(b), i.e., the initial list of 100 HAPs

[4] Screened using worksheet function seeking max lb/hr for any HAP from B4&5 Max Controlled Emissions (TPY)

[5] Total HAPs (T/yr) from B4&5 Max Controlled Emissions (TPY)

Annual Emissions of CAA Title V Regulated Pollutants (total PTE from HMA facility)

IDAPA 58.01.01.xx	Pollutant	Tier I Major Source Definition (T/yr)	PTE Maximum T/yr
006.82 c	PM (total)	100	30660.1
006.82 b, c	PM-10 (total)	100	7117.8
006.82 b, c	PM-2.5 (total)	100	3.18
006.82.a, b	CO	100	143.1
006.82.a, b	NOx	100	29.4
006.82 b	SO_2	100	3.7
006.82 b	Ozone (VOCs)[7]	100	35.1
006.82 b	Lead	100	6.83E-04

[6] Emissions without Limits = emissions without physical or operational limits (i.e., w/o baghouse for drum dryer, operate as continuous process 8760 hrs/yr)
FOR NORM's HMA: Worksheets for drum dryer emissions using natural gas fuel use EFs for fabric filter for PM, PM10.
Estimate uncontrolled emissions by multiplying drum dryer lb/hr from B4&5-MaxControlledEmissions by Uncontrolled EF/Controlled EF for PM and PM10
Uncontrolled PM = 28, Fabric Filter PM EF = 0.033 Uncontrolled PM10 = 6.5, Fabric Filter PM10 EF = 0.023
Drum Dryer PTE in lb/hr x (8,760 hrs/yr)/(2000 lb/T)(28/0.033) + Tank Heater PTE in lb/hr x (8760/2000) '+ Generator PTE in lb/hr x (8760/2000).

[7]Ozone formation is estimated based on emissions of VOCs, which are in turn often estimated by presuming all TOC emissions are VOCs

006.82.a: NOx and VOCx
006.82.b: NAAQS pollutants
006.82.c: Pollutant subject to standard under 42 U.S.C. 7411 (NSPS) [For HMAs subject to NSPS, this includes only PM]
006.82.d: Class I or Class II substance subject to standard under 42 USC 7671a(a) or 7671a(b) [Ozone-Depleting Substances]
Class I: CFC-11, 12, 13, 111, 112, 113, 114, 115, 211 thru 217; Halon 1211, 1301, 2402; carbon tetrachloride, methyl chloroform
Class II: HCFC-21, 22, 31, 121 thru 124, 131, 132, 133, 141, 142, 221 thru 226, 231 thru 235, 241 thru 244, 251, 252, 253, 261, 262, 271
006.82.e: Pollutant subject to standard under 42 USC 7412 (HAPs),
including 7412(g) [Title V MACT, including (g)(2) which includes only pollutants subject to the MACT],
(j) [Title V "MACT" emission limit from State or EPA, case-by-case basis where MACT std not yet promugated], and
(r) [RMP, where regulated substances are listed in 40 CFR 68.130]

Facility: Norm's Utility Contractor, Inc, Rathdrum, Portable HMA

SB, App. B - UNCONTROLLED

3/13/2006 17:02 Permit/Facility ID: P-060100 777-00372

POTENTIAL TO EMIT

TONS PER YEAR

Maximum Controlled Emissions of Any Pollutant from Drum Mix HMA Plant with Fabric Filter, Tank Heater, Generator, Load-out/Silo/Asphalt Stora

A. Drum Mix Plant: 250 Tons/hour 8,760 Hours/year 2,190,000 Tons/year HMA throughput 24 hrs/day

Maximum emission for each pollutant from any fuel-burning options selected on "Facility Data" worksheet. Fuels Selected = Natural Gas

B. Tank Heater: 2.1150 MMBtu Rat 8,760 Hours/year 24 hrs/day

Maximum emission for each pollutant for heater burning any fuel selected on "Facility Data" worksheet. Fuels Selected = Natural Gas

C. Generator: 0 gal/hour 0 Hours/year Generator>600h **No Generator** #2 Fuel Oil 24 hrs/day

Pollutant	A Drum Mix Max Emission Rate for Pollutant (T/yr)	B Asphalt Tank Heater Max Emission Rate for Pollutant (T/yr)	C Generator Max Emission Rate for Pollutant (T/yr)	D Load-out, Silo Filling, & Tank Storage Emission Rate for Pollutant (T/yr)	E TOTAL of Max Emission Rates from A, B, & C (T/yr) Exclude Fugitives from D
PM (total)	30660.00	6.90E-02	0.00E+00	5.72E-01	30660.07
PM-10 (total)	7117.50	6.90E-02	0.00E+00	5.72E-01	7117.57
PM-2.5	3.18	0.00E+00	0.00E+00	5.72E-01	3.18
CO	142.35	7.63E-01	0.00E+00	1.48E+00	143.11
NOx	28.47	9.08E-01	0.00E+00		29.38
SO_2	3.72	5.45E-03	0.00E+00		3.73
VOC	35.04	5.00E-02	0.00E+00	1.76E-01	35.09
Lead	6.79E-04	4.54E-06	0.00E+00		6.83E-04
HCl*	0.00E+00	0.00E+00	0.00E+00		0.00E+00
Dioxins*					
2,3,7,8-TCDD	0.00E+00	0.00E+00	0.00E+00		0.00E+00
Total TCDD	0.00E+00	0.00E+00	0.00E+00		0.00E+00
1,2,3,7,8-PeCDD	0.00E+00	0.00E+00	0.00E+00		0.00E+00
Total PeCDD	0.00E+00	0.00E+00	0.00E+00		0.00E+00
1,2,3,4,7,8-HxCDD	0.00E+00	0.00E+00	0.00E+00		0.00E+00
1,2,3,6,7,8-HxCDD	0.00E+00	0.00E+00	0.00E+00		0.00E+00
1,2,3,7,8,9-HxCDD	0.00E+00	0.00E+00	0.00E+00		0.00E+00
Total HxCDD	0.00E+00	0.00E+00	0.00E+00		0.00E+00
1,2,3,4,6,7,8-Hp-CDD	0.00E+00	0.00E+00	0.00E+00		0.00E+00
Total HpCDD	0.00E+00	0.00E+00	0.00E+00		0.00E+00
Octa CDD	0.00E+00	0.00E+00	0.00E+00		0.00E+00
Total PCDD*	0.00E+00	0.00E+00	0.00E+00		0.00E+00
Furans*					
2,3,7,8-TCDF	0.00E+00	0.00E+00	0.00E+00		0.00E+00
Total TCDF	0.00E+00	0.00E+00	0.00E+00		0.00E+00
1,2,3,7,8-PeCDF	0.00E+00	0.00E+00	0.00E+00		0.00E+00
2,3,4,7,8-PeCDF	0.00E+00	0.00E+00	0.00E+00		0.00E+00
Total PeCDF	0.00E+00	0.00E+00	0.00E+00		0.00E+00
1,2,3,4,7,8-HxCDF	0.00E+00	0.00E+00	0.00E+00		0.00E+00
1,2,3,6,7,8-HxCDF	0.00E+00	0.00E+00	0.00E+00		0.00E+00
2,3,4,6,7,8-HxCDF	0.00E+00	0.00E+00	0.00E+00		0.00E+00
1,2,3,7,8,9-HxCDF	0.00E+00	0.00E+00	0.00E+00		0.00E+00
Total HxCDF	0.00E+00	0.00E+00	0.00E+00		0.00E+00
1,2,3,4,6,7,8-HpCDF	0.00E+00	0.00E+00	0.00E+00		0.00E+00
1,2,3,4,7,8,9-HpCDF	0.00E+00	0.00E+00	0.00E+00		0.00E+00
Total HpCDF	0.00E+00	0.00E+00	0.00E+00		0.00E+00
Octa CDF	0.00E+00	0.00E+00	0.00E+00		0.00E+00
Total PCDF*	0.00E+00	0.00E+00	0.00E+00		0.00E+00
Total PCDD/PCDF*	0.00E+00	0.00E+00	0.00E+00		0.00E+00
Non-PAH HAPs					
Acetaldehyde*	0.00E+00	0.00E+00	0.00E+00		0.00E+00
Acrolein*	0.00E+00	0.00E+00	0.00E+00		0.00E+00
Benzene*	4.27E-01	1.91E-05	0.00E+00	6.64E-03	4.27E-01
1,3-Butadiene*	0.00E+00	0.00E+00	0.00E+00		0.00E+00
Ethylbenzene*	2.63E-01	0.00E+00	0.00E+00	3.91E-02	2.63E-01
Formaldehyde*	3.39E+00	6.81E-04	0.00E+00	9.01E-02	3.40E+00
Hexane*	1.01E+00	1.63E-02	0.00E+00		1.02E+00
Isooctane	4.38E-02	0.00E+00	0.00E+00	1.23E-04	4.38E-02
Methyl Ethyl Ketone*	0.00E+00	0.00E+00	0.00E+00	7.44E-03	0.00E+00
Pentane*	0.00E+00	2.36E-02	0.00E+00		2.36E-02
Propionaldehyde*	0.00E+00	0.00E+00	0.00E+00		0.00E+00
Quinone*	0.00E+00	0.00E+00	0.00E+00		0.00E+00
Methyl chloroform*	5.26E-02	0.00E+00	0.00E+00	0.00E+00	5.26E-02
Toluene*	1.64E-01	3.09E-05	0.00E+00	1.79E-02	1.64E-01
Xylene*	2.19E-01	0.00E+00	0.00E+00	6.88E-02	2.19E-01
TOTAL PAH HAPs (T/yr) =					2.06E-01
TOTAL Federal HAPs (T/yr)=					6.01E+00
TOTAL Idaho TAPs (T/yr) =					6.09E+00

Pollutant	A Drum Mix Max Emission Rate for Pollutant (T/yr)	B Asphalt Tank Heater Max Emission Rate for Pollutant (T/yr)	C Generator Max Emission Rate for Pollutant (T/yr)	D Load-out, Silo Filling, & Tank Storage Emission Rate for Pollutant (T/yr)	E TOTAL of Max Emission Rates from A, B, & C (T/yr) Exclude Fugitives from D
PAH HAPs					
2-Methylnaphthalene	8.10E-02	2.18E-07	0.00E+00	2.35E-02	8.10E-02
3-Methylchloranthrene*	0.00E+00	1.63E-08	0.00E+00		1.63E-08
Acenaphthene	1.53E-03	1.63E-08	0.00E+00	2.28E-03	1.53E-03
Acenaphthylene	9.42E-03	1.63E-08	0.00E+00	1.43E-04	9.42E-03
Anthracene	2.41E-04	2.18E-08	0.00E+00	6.23E-04	2.41E-04
Benzo(a)anthracene*	2.30E-04	1.63E-08	0.00E+00	2.27E-04	2.30E-04
Benzo(a)pyrene*	1.07E-05	1.09E-08	0.00E+00	8.59E-06	1.07E-05
Benzo(b)fluoranthene*	1.10E-04	1.63E-08	0.00E+00	2.84E-05	1.10E-04
Benzo(e)pyrene	1.20E-04	0.00E+00	0.00E+00	5.55E-05	1.20E-04
Benzo(g,h,i)perylene	4.38E-05	1.09E-08	0.00E+00	7.09E-06	4.38E-05
Benzo(k)fluoranthene*	4.49E-05	1.63E-08	0.00E+00	8.21E-06	4.49E-05
Chrysene*	1.97E-04	1.63E-08	0.00E+00	9.68E-04	1.97E-04
Dibenzo(a,h)anthracene	0.00E+00	1.09E-08	0.00E+00	1.38E-06	1.09E-08
Dichlorobenzene	0.00E+00	1.09E-05	0.00E+00		1.09E-05
Fluoranthene	6.68E-04	2.72E-08	0.00E+00	6.04E-04	6.68E-04
Fluorene	4.16E-03	2.54E-08	0.00E+00	5.68E-03	4.16E-03
Indeno(1,2,3-cd)pyrene*	7.67E-06	1.63E-08	0.00E+00	1.75E-06	7.68E-06
Naphthalene*	9.86E-02	5.54E-06	0.00E+00	9.73E-03	9.86E-02
Perylene	9.64E-06	0.00E+00	0.00E+00	1.66E-04	9.64E-06
Phenanthrene	8.32E-03	1.54E-07	0.00E+00	8.03E-03	8.32E-03
Pyrene	5.91E-04	4.54E-08	0.00E+00	1.78E-03	5.91E-04
Non-HAP Organic Compounds					
Acetone*	0.00E+00	0.00E+00	0.00E+00	9.47E-03	0.00E+00
Benzaldehyde	0.00E+00	0.00E+00	0.00E+00		0.00E+00
Butane	7.34E-01	1.91E-02	0.00E+00		7.53E-01
Butyraldehyde	0.00E+00	0.00E+00	0.00E+00		0.00E+00
Crotonaldehyde*	0.00E+00	0.00E+00	0.00E+00		0.00E+00
Ethylene	7.67E+00	0.00E+00	0.00E+00	1.79E-01	7.67E+00
Heptane	1.03E+01	0.00E+00	0.00E+00		1.03E+01
Hexanal	0.00E+00	0.00E+00	0.00E+00		0.00E+00
Isovaleraldehyde	0.00E+00	0.00E+00	0.00E+00		0.00E+00
2-Methyl-1-pentene	4.38E+00	0.00E+00	0.00E+00		4.38E+00
2-Methyl-2-butene	5.35E-01	0.00E+00	0.00E+00		5.35E-01
3-Methylpentane	2.08E-01	0.00E+00	0.00E+00		2.08E-01
1-Pentene	2.41E+00	0.00E+00	0.00E+00		2.41E+00
n-Pentane*	2.30E-01	0.00E+00	0.00E+00		2.30E-01
Valeraldehyde*	0.00E+00	0.00E+00	0.00E+00		0.00E+00
Metals					
Antimony*	1.97E-04	0.00E+00	0.00E+00		1.97E-04
Arsenic*	6.13E-04	1.82E-06	0.00E+00		6.15E-04
Barium*	6.35E-03	4.00E-05	0.00E+00		6.39E-03
Beryllium*	0.00E+00	1.09E-07	0.00E+00		1.09E-07
Cadmium*	4.49E-04	9.99E-06	0.00E+00		4.59E-04
Chromium*	6.02E-03	1.27E-05	0.00E+00		6.04E-03
Cobalt*	2.85E-05	7.63E-07	0.00E+00		2.92E-05
Copper*	3.39E-03	7.72E-06	0.00E+00		3.40E-03
Hexavalent Chromium*	4.93E-04	0.00E+00	0.00E+00		4.93E-04
Manganese*	8.43E-03	0.00E+00	0.00E+00		8.43E-03
Mercury*	2.63E-04	0.00E+00	0.00E+00		2.63E-04
Molybdenum*	0.00E+00	9.99E-06	0.00E+00		9.99E-06
Nickel*	6.90E-02	0.00E+00	0.00E+00		6.90E-02
Phosphorus*	3.07E-02	0.00E+00	0.00E+00		3.07E-02
Silver*	5.26E-04	0.00E+00	0.00E+00		5.26E-04
Selenium*	3.83E-04	0.00E+00	0.00E+00		3.83E-04
Thallium*	4.49E-06	0.00E+00	0.00E+00		4.49E-06
Vanadium*	0.00E+00	2.09E-05	0.00E+00		2.09E-05
Zinc*	6.58E-02	0.00E+00	0.00E+00		6.60E-02

a) IDAPA Toxic Air Pollutant

HMA Drum Mix Fabric Filter Toolkit_B4&5-Max Uncontrolled Emis TPY_Version B_02/10/2006 Pages 4 5

Facility: Norm's Utility Contractor, Inc, Rathdrum, Portable HMA **App.B - UNCONTROLLED**

3/13/2006 17:02 Permit/Facility ID: P-060100 777-00372 **POTENTIAL TO EMIT**

TONS PER YEAR Page 2 of 2

age Max Emissions of Any Pollutant from Drum Mix HMA Plant: Fabric Filter, Tank Heater, Generator, Load-out/Silo/Asphalt Storage

A. Drum Mix Plant: 250 Tons/hour 8,760 Hours/year 2,190,000 Tons/year HMA throughput 24 hrs/day

Maximum emission for each pollutant from any fuel-burning option selected. Fuels Selected = Natural Gas

B. Tank Heater: 2.1150 MMBtu Rated 8,760 Hours/year 24 hrs/day

Maximum emission for each pollutant from any fuel-burning option selected. Fuels Selected = Natural Gas

C. Generator: 0 gal/hour 0 Hours/year No Generator #2 Fuel Oil Generator>600hp 24 hrs/day

Pollutant	A Drum Mix Max Emission Rate for Pollutant (T/yr)	B Asphalt Tank Heater Max Emission Rate for Pollutant (T/yr)	C Generator Max Emission Rate for Pollutant (T/yr)	D Load-out, Silo Filling, & Tank Storage Emission Rate for Pollutant (T/yr)	E TOTAL of Max Emission Rates from A, B, & C (T/yr) Exclude Fugitives from D
non-PAH HAPs					
Bromomethane[e]				6.60E-04	0.00E+00
2-Butanone (see Methyl Ethyl Ketone)					0.00E+00
Carbon disulfide[e]				1.32E-03	0.00E+00
Chloroethane (Ethyl chloride[e])				1.92E-04	0.00E+00
Chloromethane (Methyl chloride[e])				1.73E-03	0.00E+00
Cumene				5.01E-03	0.00E+00
n-Hexane				0.00E+00	0.00E+00
Methylene chloride (Dichloromethane[e])				1.23E-05	0.00E+00
MTBE				0.00E+00	0.00E+00
Styrene[e]				5.78E-04	0.00E+00
Tetrachloroethane (Tetrachloroethylene[e])				3.51E-04	0.00E+00
1,1,1-Trichloroethane (Methyl chloroform[e])				0.00E+00	0.00E+00
Trichloroethene (Trichloroethylene[e])				0.00E+00	0.00E+00
Trichlorofluoromethane				5.92E-05	0.00E+00
m-/p-Xylene[e]				2.78E-03	0.00E+00
o-Xylene[e]				3.90E-03	0.00E+00
Phenol[e,j]				4.41E-03	0.00E+00
Non-HAP Organic Compounds					
Methane				1.48E+00	0.00E+00

e) IDAPA Toxic Air Pollutant

HMA Drum Mix Fabric Filter Toolkit_B4&5-Max Uncontrolled Emis TPY_Version B_02/10/2006 Pages 4 5

Facility:	Norm's Utility Contractor, Inc, Rathdrum, Portable HMA	SB, AppB - UNCONTROLLED
3/13/2006 17:31	Permit/Facility ID: P-060100 777-00372	**TAPs EL Screening** 586 pollutants are shown in bold/red Page 1 of 2

Max Emissions of Any Pollutant from Drum Mix HMA Plant with Fabric Filter, Tank Heater, Generator, Load-out/Silo/Asphalt Storage

A. Drum Mix Plant: 250 Tons/hour 8,760 Hours/year 2,190,000 Tons/year HMA throughput

Maximum emission for each pollutant from any fuel-burning option selected on "Facility Data" worksheet

B. Tank Heater: 2.1150 MMBtu Rated 8,760 Hours/year

D. Include all emissions from Load-out/Silo Filling? Yes

Maximum emission for each pollutant for heater burning any fuel selected on "Facility Data" worksheet

Short Term Source Factor 586 ELs? 1

C. Generator: 0 gal/hour 0 Hours/year Small or Large Generator using Diesel Fuel

Pollutant	TOTAL of Max Emission Rates from A, B, C & D (lb/hr)	TAPs Screening Emission Limit (EL) Increment[b] (lb/hr)	TAPs Emissions Exceed EL Increment?	
HCl[e]	0.00	0.05	No	
Dioxins[c]		**Toxic Equivalency Factor[c]**	**Adjusted Emission Rate (lb/hr)**	
2,3,7,8-TCDD	0.00E+00	1.0	0.00E+00	
Total TCDD	0.00E+00	n/a		
1,2,3,7,8-PeCDD	0.00E+00	0.5	0.00E+00	
Total PeCDD	0.00E+00	n/a		
1,2,3,4,7,8-HxCDD	0.00E+00	0.1	0.00E+00	
1,2,3,6,7,8-HxCDD	0.00E+00	0.1	0.00E+00	
1,2,3,7,8,9-HxCDD	0.00E+00	0.1	0.00E+00	
Total HxCDD	0.00E+00	n/a		
1,2,3,4,6,7,8-Hp-CDD	0.00E+00	0.01	0.00E+00	
Total HpCDD	0.00E+00	n/a		
Octa CDD	0.00E+00	n/a		
Total PCDD[c]	0.00E+00	n/a		
Furans[c]				
2,3,7,8-TCDF	0.00E+00	0.1	0.00E+00	
Total TCDF	0.00E+00	n/a		
1,2,3,7,8-PeCDF	0.00E+00	0.05	0.00E+00	
2,3,4,7,8-PeCDF	0.00E+00	0.5	0.00E+00	
Total PeCDF	0.00E+00	n/a		
1,2,3,4,7,8-HxCDF	0.00E+00	0.1	0.00E+00	
1,2,3,6,7,8-HxCDF	0.00E+00	0.1	0.00E+00	
2,3,4,6,7,8-HxCDF	0.00E+00	0.1	0.00E+00	
1,2,3,7,8,9-HxCDF	0.00E+00	0.1	0.00E+00	
Total HxCDF	0.00E+00	n/a		
1,2,3,4,6,7,8-HpCDF	0.00E+00	0.01	0.00E+00	
1,2,3,4,7,8,9-HpCDF	0.00E+00	0.01	0.00E+00	
Total HpCDF	0.00E+00	n/a		
Octa CDF	0.00E+00	n/a		
Total PCDF[c]	0.00E+00	n/a		
Total PCDD/PCDF[c]	0.00E+00	n/a		
TOTAL	Adjusted lb/hr	TAPs EL for 2,3,7,8 TCDD	**Exceeds TAPs EL?**	**Modeled?**
Dioxin/Furans[c]	0.00E+00	1.50E-10	No	
Non-PAH HAPs		**TAPs EL**		
Acetaldehyde[e]	0.00E+00	3.00E-03	No	
Acrolein[e]	0.00E+00	0.017	No	
Benzene[e]	9.90E-02	8.00E-04	Exceeds	YES
1,3-Butadiene[e]				
Ethylbenzene[e]	6.89E-02	29	No	
Formaldehyde[e]	7.07E-01	5.10E-04	Exceeds	YES
Hexane[e]	2.34E-01	12	No	
Isooctane	1.00E-02			
Methyl Ethyl Ketone[e]	1.70E-03	39.3	No	
Pentane[e]	5.39E-03	118	No	
Propionaldehyde[e]	0.00E+00	0.0287	No	
Quinone[e]	0.00E+00	0.027	No	
Methyl chloroform[e]	1.20E-02	127	No	
Toluene[e]	4.16E-02	25	No	
Xylene[e]	6.53E-02	29	No	
TOTAL PAH HAPs (lb/hr) =		**1.44E+00**		
TOTAL Federal HAPs (lb/hr)=		**1.44E+00**		
TOTAL Idaho TAPs (lb/hr) =		**1.43E+00**		

Pollutant	TOTAL of Max Emission Rates from A, B, C & D (lb/hr)	TAPs Screening Emission Limit (EL) Increment[b] (lb/hr)	TAPs Emissions Exceed EL Increment?	Modeled?
PAH HAPs				
2-Methylnaphthalene	2.39E-02			
3-Methylchloranthrene[e]	3.73E-09	2.50E-06	No	No
Acenaphthene	6.70E-04			
Acenaphthylene	2.18E-03			
Anthracene	1.97E-04			
Benzo(a)anthracene	1.04E-04			
Benzo(a)pyrene[e]	4.41E-08	2.00E-06	Exceeds	See POM
Benzo(b)fluoranthene	3.15E-05			
Benzo(e)pyrene	4.02E-05			
Benzo(g,h,i)perylene	1.16E-05			
Benzo(k)fluoranthene	1.21E-05			
Chrysene	2.66E-04			
Dibenzo(a,h)anthracene	3.18E-07			
Dichlorobenzene	2.49E-06			
Fluoranthene	2.90E-04			
Fluorene	2.25E-03			
Indeno(1,2,3-cd)pyrene	2.15E-06			
Naphthalene[e]	2.47E-02	3.33	No	No
Perylene	4.00E-05			
Phenanthrene	3.73E-03			
Pyrene	5.42E-04			
PolycyclicOrganicMatter[d,e]	4.21E-04	2.00E-06	Exceeds	YES
Non-HAP Organic Compounds				
Acetone[e]	2.16E-03	119	No	No
Benzaldehyde	0.00E+00			
Butane	1.72E-01			
Butyraldehyde	0.00E+00			
Crotonaldehyde[e]	0.00E+00	0.38	No	No
Ethylene	1.79E+00			
Heptane	2.35E+00	109	No	No
Hexanal	0.00E+00			
Isovaleraldehyde	0.00E+00			
2-Methyl-1-pentene	1.00E+00			
2-Methyl-2-butene	1.45E-01			
3-Methylpentane	4.75E-02			
1-Pentene	5.50E-01			
n-Pentane[e]	5.25E-02	118	No	No
Valeraldehyde (n-Valeraldehyde[e])	0.00E+00	11.7	No	No
Metals				
Antimony[e]	4.50E-05	0.033	No	No
Arsenic[e]	1.40E-04	1.50E-06	Exceeds	YES
Barium[e]	1.48E-03	0.033	No	No
Beryllium[e]	2.49E-08	2.80E-05	No	No
Cadmium[e]	1.05E-04	3.70E-06	Exceeds	YES
Chromium[e]	1.36E-03	0.033	No	No
Cobalt[e]	6.67E-06	0.0033	No	No
Copper[e]	7.77E-04	0.013	No	No
Hexavalent Chromium[e]	1.13E-04	5.60E-07	Exceeds	YES
Manganese[e]	1.93E-03	0.067	No	No
Mercury[e]	6.60E-05	0.003	No	No
Molybdenum[e]	2.28E-06	0.333	No	No
Nickel[e]	1.58E-02	2.70E-05	Exceeds	YES
Phosphorus[e]	7.60E-03	0.007	No	No
Silver[e]	1.20E-04	0.007	No	No
Selenium[e]	8.75E-05	0.013	No	No
Thallium[e]	1.03E-06	0.007	No	No
Vanadium[e]	4.77E-06	0.003	No	No
Zinc[e]	1.53E-02	0.667	No	No

a) Reserved

b) Toxic Air Pollutants, IDAPA 58.01.01.585 and .586, levels in effect as of January 27, 2006

c) Interim Procedures for Estimating Risks Associated with Exposures to Mixtures of Chlorinated Dibenzo-p-dioxins and Dibenzofurans (CDDs and CDFs, 1989 update, EPA/625/3-89/016, March 1989 (Source: Mike Dubois, IDEQ State Office, April 2005)

n/a = not available IDAPA 58.01.01.586, TAPs Carcinogenic Increments: Total of adjusted emission rates are treated as a single TAP (2,3,7,8 TCDD)

d) IDAPA 58.01.01.586, Polycyclic Organic Matter: Emissions of PAHs shown in bold shall be considered together as one TAP equivalent in potency to benzo(a)pyrene.

e) IDAPA Toxic Air Pollutant, 58.01.01.585 or .586

HMA Drum Mix Fabric Filter Toolkit_586&7 TOTAL TPY & TAPs ELs_Version C_02/17/2006 Pages 6, 7

Facility:	Norm's Utility Contractor, Inc, Rathdrum, Portable HMA
3/13/2006 17:31	Permit/Facility ID: P-060100 777-00372

SB, AppB - UNCONTROLLED

TAPs EL Screening
586 pollutants are shown in bold/red — Page 1 of 2

Max Emissions of Any Pollutant from Drum Mix HMA Plant with Fabric Filter, Tank Heater, Generator, Load-out/Silo/Asphalt Storage

A. Drum Mix Plant: 250 Tons/hour 8,760 Hours/year 2,190,000 Tons/year HMA throughput
Maximum emission for each pollutant from any fuel-burning option selected on "Facility Data" worksheet
B. Tank Heater: 2.1160 MMBtu Rated 8,760 Hours/year
Maximum emission for each pollutant for heater burning any fuel selected on "Facility Data" worksheet
C. Generator: 0 gal/hour 0 Hours/year Small or Large Generator using Diesel Fuel
D. Include all emissions from Load-out/Silo Filling? Yes
Short Term Source Factor 586 ELs? 1

Pollutant	TOTAL of Max Emission Rates from A, B, C & D (lb/hr)	TAPs Screening Emission Limit (EL) Increment[b] (lb/hr)	TAPs Emissions Exceed EL Increment?	
HCl[e]	0.00	0.05	No	
Dioxins[e]		Toxic Equivalency Factor[c]	Adjusted Emission Rate (lb/hr)	
2,3,7,8-TCDD	0.00E+00	1.0	0.00E+00	
Total TCDD	0.00E+00	n/a		
1,2,3,7,8-PeCDD	0.00E+00	0.5	0.00E+00	
Total PeCDD	0.00E+00	n/a		
1,2,3,4,7,8-HxCDD	0.00E+00	0.1	0.00E+00	
1,2,3,6,7,8-HxCDD	0.00E+00	0.1	0.00E+00	
1,2,3,7,8,9-HxCDD	0.00E+00	0.1	0.00E+00	
Total HxCDD	0.00E+00	n/a		
1,2,3,4,6,7,8-Hp-CDD	0.00E+00	0.01	0.00E+00	
Total HpCDD	0.00E+00	n/a		
Octa CDD	0.00E+00	n/a		
Total PCDD[c]	0.00E+00	n/a		
Furans[e]				
2,3,7,8-TCDF	0.00E+00	0.1	0.00E+00	
Total TCDF	0.00E+00	n/a		
1,2,3,7,8-PeCDF	0.00E+00	0.05	0.00E+00	
2,3,4,7,8-PeCDF	0.00E+00	0.5	0.00E+00	
Total PeCDF	0.00E+00	n/a		
1,2,3,4,7,8-HxCDF	0.00E+00	0.1	0.00E+00	
1,2,3,6,7,8-HxCDF	0.00E+00	0.1	0.00E+00	
2,3,4,6,7,8-HxCDF	0.00E+00	0.1	0.00E+00	
1,2,3,7,8,9-HxCDF	0.00E+00	0.1	0.00E+00	
Total HxCDF	0.00E+00	n/a		
1,2,3,4,6,7,8-HpCDF	0.00E+00	0.01	0.00E+00	
1,2,3,4,7,8,9-HpCDF	0.00E+00	0.01	0.00E+00	
Total HpCDF	0.00E+00	n/a		
Octa CDF	0.00E+00	n/a		
Total PCDF[c]	0.00E+00	n/a		
Total PCDD/PCDF[c]	0.00E+00	n/a		
TOTAL	Adjusted lb/hr	TAPs EL for 2,3,7,8 TCDD	Exceeds TAPs EL?	Modeled?
Dioxin/Furans[e]	0.00E+00	1.50E-10	No	
Non-PAH HAPs		TAPs EL		
Acetaldehyde[e]	0.00E+00	3.00E-03	No	
Acrolein[e]	0.00E+00	0.017	No	
Benzene[e]	9.90E-02	8.00E-04	Exceeds	YES
1,3-Butadiene[e]				
Ethylbenzene[e]	6.89E-02	29	No	
Formaldehyde[e]	7.97E-01	5.10E-04	Exceeds	YES
Hexane[e]	2.34E-01	12	No	
Isooctane	1.00E-02			
Methyl Ethyl Ketone[e]	1.70E-03	39.3	No	
Pentane[e]	5.39E-03	118	No	
Propionaldehyde[e]	0.00E+00	0.0287	No	
Quinone[e]	0.00E+00	0.027	No	
Methyl chloroform[e]	1.20E-02	127	No	
Toluene[e]	4.16E-02	25	No	
Xylene[e]	6.53E-02	29	No	
TOTAL PAH HAPs (lb/hr) =		1.44E+00		
TOTAL Federal HAPs (lb/hr)=		1.44E+00		
TOTAL Idaho TAPs (lb/hr) =		1.43E+00		

Pollutant	TOTAL of Max Emission Rates from A, B, C & D (lb/hr)	TAPs Screening Emission Limit (EL) Increment[b] (lb/hr)	TAPs Emissions Exceed EL Increment?	Modeled?
PAH HAPs				
2-Methylnaphthalene	2.39E-02			
3-Methylchloranthrene[e]	3.73E-09	2.50E-06	No	No
Acenaphthene	8.70E-04			
Acenaphthylene	2.18E-03			
Anthracene	1.97E-04			
Benzo(a)anthracene	1.04E-04			
Benzo(a)pyrene[e]	4.41E-08	2.00E-06	Exceeds	See POM
Benzo(b)fluoranthene	3.15E-05			
Benzo(e)pyrene	4.02E-05			
Benzo(g,h,i)perylene	1.16E-05			
Benzo(k)fluoranthene	1.21E-05			
Chrysene	2.66E-04			
Dibenzo(a,h)anthracene	3.16E-07			
Dichlorobenzene	2.49E-06			
Fluoranthene	2.98E-04			
Fluorene	2.25E-03			
Indeno(1,2,3-cd)pyrene	2.15E-06			
Naphthalene[e]	2.47E-02	3.33	No	No
Perylene	4.00E-05			
Phenanthrene	3.73E-03			
Pyrene	5.42E-04			
PolycyclicOrganicMatter[d,e]	4.21E-04	2.00E-06	Exceeds	YES
Non-HAP Organic Compounds				
Acetone[e]	2.16E-03	119	No	No
Benzaldehyde	0.00E+00			
Butane	1.72E-01			
Butyraldehyde	0.00E+00			
Crotonaldehyde[e]	0.00E+00	0.38	No	No
Ethylene	1.79E+00			
Heptane	2.33E+00	109	No	No
Hexanal	0.00E+00			
Isovaleraldehyde	0.00E+00			
2-Methyl-1-pentene	1.00E+00			
2-Methyl-2-butene	1.45E-01			
3-Methylpentane	4.75E-02			
1-Pentene	5.50E-01			
n-Pentane[e]	5.25E-02	118	No	No
Valeraldehyde (n-Valeraldehyde[e])	0.00E+00	11.7	No	No
Metals				
Antimony[e]	4.50E-05	0.033	No	No
Arsenic[e]	1.40E-04	1.50E-06	Exceeds	YES
Barium[e]	1.48E-03	0.033	No	No
Beryllium[e]	2.49E-08	2.80E-05	No	No
Cadmium[e]	1.05E-04	3.70E-06	Exceeds	YES
Chromium[e]	1.36E-03	0.033	No	No
Cobalt[e]	6.67E-06	0.0033	No	No
Copper[e]	7.77E-04	0.013	No	No
Hexavalent Chromium[e]	1.13E-04	5.60E-07	Exceeds	YES
Manganese[e]	1.93E-03	0.067	No	No
Mercury[e]	6.00E-05	0.003	No	No
Molybdenum[e]	2.26E-06	0.333	No	No
Nickel[e]	1.38E-02	2.70E-05	Exceeds	YES
Phosphorus[e]	7.00E-03	0.007	No	No
Silver[e]	1.20E-04	0.007	No	No
Selenium[e]	8.75E-05	0.013	No	No
Thallium[e]	1.03E-06	0.007	No	No
Vanadium[e]	4.77E-06	0.003	No	No
Zinc[e]	1.53E-02	0.667	No	No

a) Reserved
b) Toxic Air Pollutants, IDAPA 58.01.01.585 and .586, levels in effect as of January 27, 2006
c) Interim Procedures for Estimating Risks Associated with Exposures to Mixtures of Chlorinated Dibenzo-p-dioxins and Dibenzofurans (CDDs and CDFs, 1989 update, EPA/625/3-89/016, March 1989 (Source: Mike Dubois, IDEQ State Office, April 2005)
n/a = not available IDAPA 58.01.01.586, TAPs Carcinogenic Increments: Total of adjusted emission rates are treated as a single TAP (2,3,7,8 TCDD)
d) IDAPA 58.01.01.586, Polycyclic Organic Matter: Emissions of PAHs shown in bold shall be considered together as one TAP equivalent in potency to benzo(a)pyrene.
e) IDAPA Toxic Air Pollutant, 58.01.01.585 or .586

HMA Drum Mix Fabric Filter Toolkit_86&7 TOTAL TPY & TAPs ELs_Version C_02/17/2006 Pages 6, 7

APPENDIX C

AIR DISPERSION MODEL

P-060100

MEMORANDUM

DATE: March 5, 2005

TO: Cheryl Robinson, Permit Writer, Air Program

FROM: Kevin Schilling, Stationary Source Modeling Coordinator, Air Program

PROJECT NUMBER: P-060100

SUBJECT: Modeling Review for Norm's Utility Contractor, Inc. Permit to Construct Application for a Portable Hot Mix Asphalt Plat at their facility near Rathdrum, Idaho.

1.0 Summary

Norm's Utility Contractor, Inc. (Norm's) submitted a Permit to Construct (PTC) application for a portable hot mix asphalt plant, primarily located at their site near Rathdrum, Idaho. Air quality analyses involving atmospheric dispersion modeling of emissions associated with the facility were submitted in support of a permit application to demonstrate that the facility would not cause or significantly contribute to a violation of any ambient air quality standard (IDAPA 58.01.01.203.02).

A technical review of the submitted air quality analyses was conduced by DEQ. The submitted modeling analyses in combination with DEQ's staff analyses: 1) utilized appropriate methods and models; 2) was conducted using reasonably accurate or conservative model parameters and input data; 3) adhered to established DEQ guidelines for new source review dispersion modeling; 4) showed either a) that predicted pollutant concentrations from emissions associated with the proposed facility were below significant contribution levels (SCLs); or b) that predicted pollutant concentrations from emissions associated with the facility, when appropriately combined with background concentrations, were below applicable air quality standards at all receptor locations. Table 1 presents key assumptions and results that should be considered in the development of the permit.

Table 1. KEY ASSUMPTIONS USED IN MODELING ANALYSES

Criteria/Assumption/Result	Explanation/Consideration
A rock crushing plant and ready mix concrete batch plant are also present at the site. Impacts of the crusher and batch plant were included in the modeling assessment.	To assure compliance with NAAQS, reasonable control of fugitive emissions are required. General requirements of the rock crusher permit by rule will satisfy this requirement.
Controlled emissions were used to demonstrate compliance with the TAPs from the HMA plant.	As per IDAPA 58.01.01.210.08.c, TAP emission limits are required in the permit if controlled emissions were used in the modeling analyses to demonstrate compliance.
The HMA may not be located in any PM_{10} non-attainment areas	Impacts from the facility exceed PM_{10} significant contribution levels.

1

2.0 Background Information

2.1 Applicable Air Quality Impact Limits and Modeling Requirements

This section identifies applicable ambient air quality limits and analyses used to demonstrate compliance.

2.1.1 Area Classification

The proposed Norm's facility is located in Kootenai County, designated as an attainment or unclassifiable area for sulfur dioxide (SO_2), nitrogen dioxide (NO_2), carbon monoxide (CO), lead (Pb), ozone (O_3), and particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers (PM_{10}). There are no Class I areas within 10 kilometers of the facility.

2.1.2 Significant and Full Impact Analyses

If estimated maximum pollutant impacts to ambient air from the emissions sources associated with the HMA exceed the significant contribution levels (SCLs) of IDAPA 58.01.01.006.91, then a full impact analysis is necessary to demonstrate compliance with IDAPA 58.01.01.203.02. A full impact analysis for attainment area pollutants involves adding ambient impacts from facility-wide emissions to DEQ-approved background concentration values that are appropriate for the criteria pollutant/averaging-time at the facility location and the area of significant impact. The resulting maximum pollutant concentrations in ambient air are then compared to the National Ambient Air Quality Standards (NAAQS) listed in Table 2. Table 2 also lists SCLs and specifies the modeled value that must be used for comparison to the NAAQS.

2.2 Background Concentrations

Background concentrations were revised for all areas of Idaho by DEQ in March 2003[1]. Background concentrations in areas where no monitoring data are available were based on monitoring data from areas with similar population density, meteorology, and emissions sources. Background concentrations used in these analyses are listed in Table 3. Rural/agricultural default values were used for background concentrations. PM_{10}, SO_2, and NO_2 were the only pollutants included in the modeling analyses, since emissions of other criteria pollutants were below modeling applicability thresholds used by DEQ. The SO_2 annual emissions rate was also below the modeling applicability threshold.

During review of the application, DEQ was made aware of a neighboring stone crushing facility. DEQ used methods in the March 2003 background concentration memo[1] to account for PM_{10} impacts from neighboring facilities. The method involves using generic modeling results as a function of emissions quantities for facilities within 1.0 kilometers. An emissions rate of 100

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1 Hardy, Rick and Schilling, Kevin. *Background Concentrations for Use in New Source Review Dispersion Modeling.* Memorandum to Mary Anderson, March 14, 2003.

ton/year was used, with the 24-hour averaging period impact factor of 0.036 $\mu g/m^3$ per ton/year and the annual averaging period impact factor of 0.011 $\mu g/m^3$ per ton/year, to calculate incremental impacts of 3.6 $\mu g/m^3$ for 24-hour PM_{10} and 1.1 $\mu g/m^3$ for annual PM_{10}. Impacts of other pollutants from the neighboring facility were assumed to be negligible and indistinguishable from background concentrations.

Table 2. APPLICABLE REGULATORY LIMITS

Pollutant	Averaging Period	Significant Contribution Levels[a] ($\mu g/m^3$)[b]	Regulatory Limit[c] ($\mu g/m^3$)	Modeled Value Used[d]
PM_{10}[e]	Annual	1.0	50[f]	Maximum 1st highest[g]
	24-hour	5.0	150[h]	Maximum 6th highest[i]
Carbon monoxide (CO)	8-hour	500	10,000[j]	Maximum 2nd highest[g]
	1-hour	2,000	40,000[j]	Maximum 2nd highest[g]
Sulfur Dioxide (SO_2)	Annual	1.0	80[f]	Maximum 1st highest[g]
	24-hour	5	365[j]	Maximum 2nd highest[g]
	3-hour	25	1,300[j]	Maximum 2nd highest[g]
Nitrogen Dioxide (NO_2)	Annual	1.0	100[f]	Maximum 1st highest[g]
Lead (Pb)	Quarterly	NA	1.5[h]	Maximum 1st highest[g]

a IDAPA 58.01.01.006.91
b Micrograms per cubic meter
c IDAPA 58.01.01.577 for criteria pollutants
d The maximum 1st highest modeled value is always used for significant impact analysis
e Particulate matter with an aerodynamic diameter less than or equal to a nominal ten micrometers
f Never expected to be exceeded in any calendar year
g Concentration at any modeled receptor
h Never expected to be exceeded more than once in any calendar year
i Concentration at any modeled receptor when using five years of meteorological data
j Not to be exceeded more than once per year

Table 3. BACKGROUND CONCENTRATIONS

Pollutant	Averaging Period	Background Concentration ($\mu g/m^3$)[a]	Impact of Neighboring Facility ($\mu g/m^3$)
PM_{10}	24-hour	73	3.6
	annual	26	1.1
Sulfur dioxide (SO_2)	3-hour	34	Neg
	24-hour	26	Neg
Nitrogen dioxide (NO_2)	annual	17	Neg

a Micrograms per cubic meter

3.0 Modeling Impact Assessment

3.1 Modeling Methodology

Table 4 provides a summary of the modeling parameters used in analyses submitted by Norm's. CH2M Hill (CH2M), Norm's consultant, performed the air quality analyses.

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Table 4. MODELING PARAMETERS		
Parameter	Description/Values	Documentation/Additional Description
Model	ISCST3	ISCST3 version 02035.
Meteorological data	1987-1991	Spokane, Washington, surface and upper air data
Terrain	Considered	Elevation data from digital elevation model (DEM) files
Building downwash	Considered	The building profile input program (BPIP) was used
Receptor grid	Grid 1	25-meter spacing along boundary out to 100 meters
	Grid 2	50-meter spacing out to 500 meters
	Grid 3	100-meter spacing out to 500 meters

3.1.1 Modeling protocol

A protocol was submitted to and approved by DEQ prior to submission of the application. Modeling was conducted using methods and data presented in the protocol and the *State of Idaho Air Quality Modeling Guideline*.

3.1.2 Model Selection

ISCST3 was used by CH2M to conduct the ambient air analyses. ISCST3 is appropriate for this facility since all ambient air locations are outside of building recirculation cavities. ISCST3 accounts for building downwash, but does not calculate concentrations for areas within recirculation cavities.

3.1.3 Meteorological Data

Site-specific meteorological data are not available for the proposed facility site near Rathdrum. Spokane, Washington airport is the closest area where model-ready surface and upper air meteorological data are available. These data were used in the modeling analyses.

PCRAMMET, the meteorological data preprocessor for ISCST-3, occasionally generates unrealistically low mixing heights as a result of interpolation algorithms used with the twice daily measured mixing heights. The CH2M and DEQ verification modeling analyses were conducted using meteorological data corrected for low mixing heights. All mixing height values below 50 meters were replaced with a value of 50 meters.

3.1.4 Terrain Effects

The modeling analyses submitted considered elevated terrain, with elevations obtained from USGS digital elevation model (DEM) files. Elevations of terrain were not thoroughly reviewed by DEQ since review of a topographic map indicates the area is nearly flat for dispersion modeling purposes, especially considering that maximum impacts are located very near the emissions sources.

3.1.5 Facility Layout

DEQ verified proper identification of the facility boundary and buildings on the site by comparing the modeling input to a facility plot plan submitted with the application and aerial photographs of the area.

3.1.6 Building Downwash

Plume downwash effects caused by structures proposed for the facility were accounted for in the modeling analyses. The Building Profile Input Program (BPIP) was used to calculate direction-specific building dimensions and Good Engineering Practice (GEP) stack height information from building dimensions/configurations and emissions release parameters for ISCST3.

3.1.7 Ambient Air Boundary

The property boundary was used as the ambient air boundary for the modeling analyses submitted by Norm's. DEQ assumed reasonable measures would be taken to ensure the general public are excluded from access to the property.

3.1.8 Receptor Network

The receptor grids used by CH2M met the minimum recommendations specified in the *State of Idaho Air Quality Modeling Guideline*. DEQ determined the receptor grid was adequate to reasonably resolve maximum modeled concentrations.

3.2 Emission Rates

Emissions rates used in the dispersion modeling analyses submitted by the applicant were reviewed against those in the permit application, the engineering technical memorandum, and the proposed permit. The following approach was used for DEQ verification modeling:

- All modeled emissions rates were equal to or greater than the facility's emissions calculated in the PTC application or the permitted allowable rate.
- More extensive review of modeling parameters selected was conducted when model results for specific sources approached applicable thresholds.

Sources associated with the HMA and the concrete batch plant will only operate for a maximum of 10 hours in any day. The hourly emissions rates used in the model were adjusted by a factor of 10/24 to account for periods of no emissions. The adjusted emissions rate was modeled for all hours of each day.

Table 5 and Table 6 list criteria emissions rates for sources included in the short-term and long-term dispersion modeling analyses, respectively. CH2M included fugitive PM_{10} emissions from material handling operations (sand and aggregate to and from storage piles, and material transfers involving conveyors). CH2M assessed 24-hour crusher impacts assuming uncontrolled emissions rates and a 16 hour/day operational rate. DEQ determined reasonable control of fugitive emissions, as required by the permit by rule and Idaho regulations, would easily attain a 70 percent control efficiency, based on information presented in EPA's emissions factor data base, AP42.[2] DEQ also concluded that modeling maximum emissions for 24 hour/day would be more appropriate for conservatively assessing maximum 24-hour impacts. Annual modeled emissions for the crusher were based on 1,250 hour/year.

Table 5. MODELED EMISSIONS RATES FOR SHORT-TERM (24-HOUR AND LESS)

Source Id	Description	Emission Rates (lb/hr)[a]	
		PM_{10}[b]	SO_2[c]
SILO1	Cement Silo Filling	0.00875[d]	0.0
SILO2	Fly Ash Silo Filling	0.00875[d]	0.0
VENT	Batcher Vent	0.0050[d]	0.0
LOAD	Mix Loading	0.00875[d]	0.0
GEN1	Emergency Generator	0.159[d]	0.91[e] 0.38[d]
GEN2	Rock Crusher Generator	0.68[f] (1.02[g])	5.87[e] 3.91[f] (5.87[g])
DRYER	Dryer	2.396[d]	0.85[e] 0.35[d]
HEATER	Heater	0.00638[d] (0.0118[h])	0.0012[e] 0.00050[d] (0.000932[h])
SILOA	Asphalt Silo	0.115[d]	0.0
Fugitive Emissions Sources			
AGG1	Aggregate and Sand to Bin	0.475[d]	0.0
HOP1	Hopper Loading	0.475[d]	0.0
CRUSH	Crusher and Ass. Handling	8.83[f] (3.98[i])	0.0
CONVEY	Conveyor	0.70[d]	0.0

a Pounds per hour emissions rates. Values in parentheses are those from DEQ's verification analyses, where those values differ from what was used in the submitted analyses
b Particulate matter with an aerodynamic diameter less than or equal to a nominal ten micrometers
c Sulfur dioxide
d Hourly rate modeled for 24-hour standard. Based on 10 hr/day operation
e Maximum rate modeled for 3-hour standard
f Hourly rate modeled for 24-hour standard. Based on 16 hr/day operation
g DEQ analyses based on emissions for 24-hr/day operations
h Annual emissions assumed 6720 hr/yr operation, which equates to 18.4 hr/day. Submitted analyses were based on 10 hr/day and DEQ analyses were based on 18.5 hr/day.
i DEQ analyses based on emissions for 24 hr/day operations and 70% emissions control for reasonable dust control measures

2 AP42, Fifth Edition. Compilation of Air Pollutant Emission Factors, Volume 1: Stationary Point and Area Sources. http://www.epa.gov/ttn/chief/ap42/index.html.

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Table 6. MODELED EMISSIONS RATES FOR LONG-TERM (ANNUAL)

Source Id	Description	Emission Rates (lb/hr)[a]		
		PM_{10}[b]	SO_2[c]	NO_x[d]
SILO1	Cement Silo Filling	0.00875[e]	0.0	0.0
SILO2	Fly Ash Silo Filling	0.00875[e]	0.0	0.0
VENT	Batcher Vent	0.0050[e]	0.0	0.0
LOAD	Mix Loading	0.00875[e]	0.0	0.0
GEN1	Emergency Generator	0.0217[f]	0.0521[f]	0.37[f]
GEN2	Rock Crusher Generator	0.145[g]	0.838[g]	4.97[g]
DRYER	Dryer	0.788[e]	0.116[e]	0.89[e]
HEATER	Heater	0.0117[e]	0.000927[e]	0.155[e]
SILOA	Asphalt Silo	0.0379[e]	0.0	0.0
Fugitive Emissions Sources				
AGG1	Aggregate and Sand to Bin	0.475[e]	0.0	0.0
HOP1	Hopper Loading	0.475[e]	0.0	0.0
CRUSH	Crusher and Ass. Handling	1.90[g] (0.567[h])	0.0	0.0
CONVEY	Conveyor	0.229[e]	0.0	0.0

a Pounds per hour emissions rates. Values in parentheses are those from DEQ's verification analyses, where those differ from what was used in the submitted analyses
b Particulate matter with an aerodynamic diameter less than or equal to a nominal ten micrometers
c Sulfur dioxide
d Oxides of nitrogen
e Based on 10 hr/day operation
f Based on 500 hr/yr operation
g Based on an allowable 1,250 hr/yr operation
h Based on an allowable 1,250 hr/yr operation and 70% emissions control for reasonable dust control measures

Table 7 lists applicable TAP emissions increases associated with the HMA. Maximum lb/hr emissions rates were multiplied by a factor of 10/24 to account for maximum 10 hr/day operation. Initial modeling submitted by the applicant did not include polycyclic organic matter (POM), defined by IDAPA 58.01.01.586 as emissions of PAH mixtures, considered together as one TAP equivalent in potency to benzo(a)pyrene. Review of emissions calculations indicated the screening emissions level (EL) of POM in IDAPA 58.01.01.586 could be exceeded. Therefore, DEQ included POM in verification modeling analyses.

Table 7. TAP Emissions Rates used in Modeling				
TAP	TAP Emissions Rates (lb/hr)			
	DRYER	HEATER	SILOA	CONVEY
Benzene	4.06E-2	1.76E-6	6.33E-4	0.0
Formaldehyde	3.23E-1	6.29E-5	9.12E-3	0.0
Arsenic	5.83E-4	1.68E-6	0.0	0.0
Cadmium	4.29E-4	9.25E-6	0.0	0.0
Chromium	1.38E-3[a]	2.82E-6[a]	0.0	0.0
Chromium 6+	4.71E-4	0.0	0.0	0.0
Nickel	6.58E-3	1.76E-6	0.0	0.0
POM	5.71E-5	9.58E-9	2.84E-4	0.0

a. The total chromium emissions rate is below the 0.0033 lb/hr screening emission limit (EL) of IDAPA 58.01.01.585. Therefore, modeling analysis was not necessary (the applicant included chromium in the analyses)

3.3 Emission Release Parameters

Table 8 provides emissions release parameters, including stack height, stack diameter, exhaust temperature, and exhaust velocity. Values used in the analyses appeared reasonable and within expected ranges. Additional documentation /verification of these parameters were not required.

Table 8. EMISSIONS AND STACK PARAMETERS					
Release Point /Location	Source Type	Stack Height (m)[a]	Modeled Diameter (m)	Stack Gas Temp. (K)[b]	Stack Gas Flow Velocity (m/sec)[c]
SILO1	Point	13.8	0.28	293	0.001
SILO2	Point	17.1	0.28	293	0.001
VENT	Point	4.9	0.2	293	0.001
LOAD	Point	11.7	0.52	293	0.001
GEN1	Point	4	0.2	795	41.533
GEN2	Point	4	0.2	708	113
DRYER	Point	8.5	0.46	439	152
HEATER	Point	3.4	0.51	505	2.0
SILOA	Point	8.5	0.85	293	0.001
Volume Sources					
Release Point /Location	Source Type	Release Height (m)	Initial Horizontal Dispersion Coefficient σ_{y0} (m)	Initial Vertical Dispersion Coefficient σ_{z0} (m)	
AGG1	Volume	10.06	0.71	2.34	
HOP1	Volume	3.66	0.71	1.7	
CRUSH	Volume	3.05	12.2	2.84	
CONVEY	Volume	2.13	2.3	6.51	

a. Meters

b. Kelvin

c. Meters per second

3.4 Results for Significant and Full Impact Analyses

CH2M demonstrated compliance with NAAQS using full impact analyses. Results of preliminary significant impact analyses were not presented in the application. Results of the full impact analyses are presented in Table 9.

Table 9. RESULTS OF FULL IMPACT ANALYSES						
Pollutant	**Averaging Period**	**Maximum Modeled Concentration[a] ($\mu g/m^3$)[b]**	**Background Concentration ($\mu g/m^3$)**	**Total Ambient Impact ($\mu g/m^3$)**	**NAAQS[c] ($\mu g/m^3$)**	**Percent of NAAQS**
PM_{10}[d]	24-hour	73.8[e] (61.2[f])	73 + 3.6	150.4 (137.8)	150	100 (92)
	Annual	6.9 (9.7)	26 + 1.1	34.0 (36.8)	50	68 (74)
Sulfur dioxide (SO_2)	3-hour	53.3[g] (52.9[h])	34	87.3 (86.9)	1,300	7 (7)
	24-hour	17.1[g] (25.2[h])	26	43.1 (51.2)	365	12 (14)
Nitrogen dioxide (NO_2)	Annual	3.5 (3.5)	17	20.5 (20.5)	100	20 (20)

a. Values in parentheses are those obtained from DEQ verification modeling
b. Micrograms per cubic meter
c. National ambient air quality standards
d. Particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers
e. Maximum 6th highest modeled concentration from modeling each of five years separately
f. Maximum 6th highest modeled concentration from modeling a five-year meteorological data set
g. Maximum 1st highest modeled concentration from modeling each of five years separately
h. Maximum 2nd highest modeled concentration from modeling a five year meteorological data set

3.5 Results for TAPs Analyses

Compliance with TAP increments were demonstrated by modeling uncontrolled TAP emissions (those TAPs with emissions exceeding the ELs) from the tank heater and load-out silo and controlled emissions from the dryer. Emissions limits for TAPs are needed in the permit, as per IDAPA 58.01.01.210.08.c, since impacts of controlled emissions were used to demonstrate compliance. Table 10 summarizes the ambient TAP analyses.

Table 10. RESULTS OF TAP ANALYSES				
TAP	**Averaging Period**	**Maximum Modeled Concentration[a] ($\mu g/m^3$)[b]**	**AACC ($\mu g/m^3$)**	**Percent of AACC**
Benzene	Annual	0.00337 (0.00337)	0.12	
Cadmium	Annual	0.000004 (0.00004)	0.00056	
Formaldehyde	Annual	0.04834 (0.0483)	0.077	
Arsenic	Annual	0.000004 (0.00004)	0.00023	
Chromium 6+	Annual	0.000003 (0.00003)	0.000083	
Nickel	Annual	0.00048 (0.00048)	0.0042	
POM	Annual	Not Modeled (0.00148)	0.00030	

a. Values in parentheses are modeling results obtained by DEQ verification analyses
b. Micrograms per cubic meter
d. Meters

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4.0 Conclusions

The ambient air impact analysis submitted, in combination with DEQ's verification analyses, demonstrated to DEQ's satisfaction that emissions from the facility will not cause or significantly contribute to a violation of any air quality standard.

Facility: Norm's Utility Contractor, Inc, Rathdrum, Portable HMA

3/13/2006 17:11 Permit/Facility ID: P-060100 777-00372

SB, App. B - UNCONTROLLED

Ambient Impacts - Facility Wide Full Impact Analysis (based on Screening Modeling, NO CO-LOCATION)

A. Drum Mix Plant: 250 Tons/hour 8,760 Hours/year 2,190,000 Tons/year HMA throughput 24 hrs/day

Maximum emission for each pollutant from any fuel-burning option selected on "Facility Data" worksheet. Fuels Selected = Natural Gas

B. Tank Heater: 2.1150 MMBtu Rated 8,760 Hours/year 24 hrs/day

Maximum emission for each pollutant for heater burning any fuel selected on "Facility Data" worksheet. Fuels Selected = Natural Gas

C. Generator: 0 gal/hour 0 Hours/year #2 Fuel Oil (diesel) 24 hrs/day

[4] Memo, March 14, 2003, Rick Hardy & Kevin Schilling to Mary Anderson (all DEQ State Office Air Division), "Background Concentrations for Use in New Source Review Dispersion Modeling"

[5] Non-Carcinogenic (585) Impacts converted to 24-hr average using persistence factor x (hrs/day)/24

[6] Carcinogenic (586) Impacts converted to annual average for dryer using persistence factor x (T/yr)/(T/hr * 8760) and persistence factor x (hrs/yr)/8760 for heater and generator

Pollutant	Averaging Period	Drum Dryer Maximum Predicted Ambient Impact (µg/m3)	Tank Heater Maximum Predicted Ambient Impact (µg/m3)	Generator Maximum Predicted Ambient Impact (µg/m3)	Load-out/ Silo/ Storage Maximum Predicted Ambient Impact (µg/m3)	HMA FACILITY TOTAL Maximum Predicted Ambient Impact (µg/m3)	Background Concentration (µg/m3)[4]	Total Ambient Impact (µg/m3)	NAAQS (µg/m3)	Percent of NAAQS
PM-10	24-hour	1179.75	0.29	0.00	18.48	**1198.51**	**73**	1,272	150	847.7%
	Annual	235.950	0.06	0.00	3.83	**239.83**	**26**	266	50	531.7%
CO	1-hour	59.0	7.94	0.00	473.8	**540.7**	**3,600**	4,141	10,000	41.4%
	8-hour	41.3	5.56	0.00	99.3	**146.2**	**2,300**	2,446	40,000	6.1%
NO_2	Annual	0.944	0.76	0.00		**1.70**	**17**	19	100	18.7%
SO_2	3-hour	1.39	0.05	0.00		**1.4**	**34**	35	1,300	2.7%
	24-hour	0.62	0.02	0.00		**0.6**	**26**	27	365	7.3%
	Annual	0.12	0.00	0.00		**0.13**	**8**	8	80	10.2%
Ozone (as VOCs/TOCs)	1-hour	14.52	0.52	0.00		**15.04**		15	0.08 ppm	
Lead	Quarterly	9.14E-06	1.54E-06	0.00E+00		**1.07E-05**	**3.00E-02**	0.03	1.5	2.0%
Non-Carcinogenic (585)									AAC (mg/m³) (24-hr avg)	Percent of AAC
HCl[5]	24-hour	0.00E+00	0.00E+00	0.00E+00		**0.00E+00**	[illegible]	0.00E+00	0.375	0.000%
Phosphorus[5]	24-hour	0.00E+00	0.00E+00	0.00E+00		**0.00E+00**	[illegible]	0.00E+00	0.005	0.000%
Propionaldehyde[5]	24-hour	0.00E+00	0.00E+00	0.00E+00		**0.00E+00**	[illegible]	0.00E+00	0.0215	0.000%
Quinone[5]	24-hour	0.00E+00	0.00E+00	0.00E+00		**0.00E+00**	[illegible]	0.00E+00	0.020	0.000%
Carcinogenic (586)							**Short Term Source Factor:**	1	AACC (ug/m³) (Annual Avg x STSF)	Percent of AACC
Arsenic[6]	Annual	3.18E-05	2.36E-06	0.00E+00		**3.41E-05**	[illegible]	3.41E-05	2.3E-04	14.8%
Benzene[6]	Annual	2.21E-02	2.48E-05	0.00E+00	2.03E-02	**4.24E-02**	[illegible]	4.24E-02	1.2E-01	35.4%
Cadmium[6]	Annual	2.33E-05	1.30E-05	0.00E+00		**3.63E-05**	[illegible]	3.63E-05	5.6E-04	6.5%
Dioxins/Furans (TEQ)	Annual	0.00E+00				**0.00E+00**	[illegible]	0.00E+00	1.50E-10	0.0%
Hexavalent Chromium[6]	Annual	2.55E-05	0.00E+00	0.00E+00		**2.55E-05**	[illegible]	2.55E-05	8.3E-05	30.8%
Formaldehyde[6]	Annual	1.76E-01	8.87E-04	0.00E+00	2.69E-01	**4.45E-01**	[illegible]	4.45E-01	7.7E-02	578.5%
Nickel[6]	Annual	3.57E-03	0.00E+00	0.00E+00		**3.57E-03**	[illegible]	3.57E-03	4.2E-03	**85.1%**
PolycyclicOrganic Matter[6,*]	Annual	9.55E-05		0.00E+00	3.85E-03	**3.95E-03**	[illegible]	3.95E-03	3.0E-04	**1316.6%**

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APPENDIX D

T-RACT ANALYSIS

P-060100

MEMORANDUM

DATE:	March 13, 2006
TO:	Bill Rogers, DEQ Regional Permit Coordinator, Air Program Kevin Schilling, DEQ Stationary Source Modeling Coordinator, Air Program
FROM:	Cheryl Robinson, Permit Writer, Air Program
PROJECT NO:	P-060100
SUBJECT:	Facility ID No. 777-00372, Norm's Utility Contractor, Inc., Rathdrum Portable Hot Mix Asphalt Plant PTC Application, T-RACT Applicability and Emission Limit Determination

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During permit development and verification modeling for this PTC, DEQ identified that the emissions estimates for polycyclic organic matter (POM) from the drum dryer, asphalt tank heater, and silo filling and loadout from this hot-mix asphalt (HMA) plant were estimated exceeded the screening emissions level (EL) increment, and that modeling predicted that the ambient air impact due to POM would exceed the acceptable ambient concentration for carcinogens (AACC) listed in IDAPA 58.01.01.586.

POM: IDAPA 58.01.01.586 screening EL = 2.60E-06 pounds per hour
Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Chrysene, Dibenzo(a,h)anthracene, and Indeno(1,2,3-cd)pyrene considered together as one toxic air pollutant (TAP), equivalent in potency to benzo(a)pyrene.

Proposed T-RACT:

Operational and throughput limits
No credit taken for POM removal in drum dryer fabric baghouse
Good operation and maintenance practices, including:
- Annual inspection and maintenance on the drum dryer burner, and
- Annual inspection and maintenance and other maintenance as necessary on the fabric filter baghouse.

Cost Effectiveness, \$/ton POM, normalized to 1: Proposed T-RACT (1.0), RTO (10.6), Afterburner (15.9)

DEQ Determination: Based on a review of the applicant's submittal, DEQ has determined that the applicant has proposed T-RACT for control of POM emissions from the HMA plant. The steps below describe how DEQ determined the emission standard constituting T-RACT for this case.

POM emissions: 4.21E-04 pounds per hour and 0.505 pounds per year based on:
Drum dryer – HMA throughput of 250 tons per hour, 1,200 hours per year
Tank heater –at max. heat input capacity of 2.115 MMBtu, 6,720 hours per year
Silo filling and loadout – HMA throughput of 250 tons per hour, 1,200 hours per year

POM emissions, Avg. Hourly: 3.41E-04 pounds per hour, based on:
Drum dryer (lb/hr) x 10 hrs/24 hrs and Tank heater (lb/hr) x 18.5 hrs/24 hrs
Silo filling and loadout (lb/hr) x 24 hrs/24 hrs

The proposed T-RACT ambient concentration of 0.00148 $\mu g/m^3$ is less than or equal to the amount of the TAP that would contribute an ambient air cancer risk probability of less than one to one hundred thousand (1:100,000), i.e., a level that is 10 times the applicable acceptable ambient concentration for carcinogens (AACC) listed in Section 586. In accordance with IDAPA 58.01.01.212.b, no further procedures for demonstrating preconstruction compliance are required for POM emissions as part of the application process.

$$\mathbf{0.00148\ \mu g/m^3 < 0.00304\ \mu g/m^3} = 10 \times 3.04\text{E-}04\ \mu g/m^3\text{, the AACC for benzo(a)pyrene}$$

T-RACT Emission Standards: Permit conditions shall be established to limit the operational hours, HMA throughput, and total POM emissions to no more than the values used in DEQ's verification modeling analysis.

DE/AFS/SF

P.O. Box 2047
Coeur d'Alene, Idaho 83816

Norm's
UTILITY CONTRACTOR, INC.

(208) 667-7496
FAX (208) 765-5083

RECEIVED

MAR 1 4 2006

DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE A.Q. PROGRAM

DEQ
Regional Permit Program Coordinator
Air Quality Division ATTN: Cheryl Robinson
1410 N. Hilton
Boise, ID 83706

DEQ received an electronic copy of the T-RACT analysis from Rick McCormick of CH2M HILL on March 9, 2006, but submittal of any information in support of a permit application must also be certified as true, accurate, and complete by a responsible official at the company. The certification language is:

In accordance with IDAPA 58.01.01.123 (Rules for the Control of Air Pollution in Idaho), I, Tom Mattix, certify based on the information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

SIGNATURE: Tom Mattix DATE: 3/14/06

CH2M HILL
322 East Front Street
Suite 200
Boise, ID 83702-7359
Tel 208.345.5310
Fax 208.345.5316

CH2MHILL

March 8, 2006

Idaho Department of Environmental Quality
1410 North Hilton
Boise, Idaho 83706-1255

Dear Ms. Cheryl Robinson:

Subject: POM T-RACT Analysis
15-Day Pre-Permit to Construct HMA Application
Norm's Utility Contractor, Inc., Rathdrum, Idaho

On behalf of Norm's Utility Contractor, Inc., CH2M HILL is submitting supplemental information to support the 15-Day Pre-Permit to Construct Hot-Mix Asphalt (HMA) Application submitted to the Idaho Department of Environmental Quality (IDEQ) in January, 2006. This information addresses the modeled ambient air exceedence of Polycyclic Organic Matter (POM) emissions from certain pieces of storage or operating equipment at the site. This submittal constitutes a T-RACT (Toxics Reasonably Achievable Control Technology) analysis for the POM emitted from the hot mix asphalt (HMA) liquid asphalt tank, the rotary mixer emissions control baghouse and the HMA product storage silo. POM emissions are a subset of the larger Volatile Organic Compounds (VOC) category.

CH2M HILL has prepared a T-RACT analysis for determining what level of control could reasonably be achieved for POM emissions. The T-RACT must be technically feasible, environmentally sound, and economically achievable. If a control technology is not feasible, the standard may be based on a work practice, among other considerations. Idaho T-RACT regulations are found at IDAPA 58.01.01.210.14. This review presents our analysis and T-RACT conclusions.

CH2M HILL has included a summary of POM T-RACT analysis and data in Attachment A. This attachment considers the use of two POM control technologies beyond the "base-case." The base case is the proposed use of a high-efficiency fabric filter baghouse assembly coupled with good operation and maintenance practices on the POM emissions sources, the HMA storage silo and the rotary mixer baghouse assembly. The POM removal technologies considered are the use of a gas-fired afterburner and the use of a gas-fired RTO. The use of wet scrubbers was considered and rejected due to their low or unreliable POM removal efficiencies.

The Norm's Utility Contractor site is to be constructed in Rathdrum, Idaho. The installation would be for the manufacture, storage and transfer of up to 250 tons per hour of HMA. The HMA facility is a plant where aggregates are blended, heated, dried, and then combined with liquid asphalt to produce a paving material in a continuous process. This HMA is used for road surfaces, runways, erosion control and other typical paving applications. HMA is produced by drying well-graded aggregate in a direct gas-fired, inclined rotary drum. Aggregate dries as it travels down the drum whereupon liquid asphalt is added to the aggregate and mixed as the aggregate travels the rest of the length of the drum. The resulting HMA is discharged at the end of the mixer and conveyed to a storage silo. Trucks are filled from the silo as needed. The liquid asphalt is stored in an adjacent gas-fired, indirect heated tank. Gas volumes and temperatures are necessarily high in a rotary drum mixer to dry large quantities of aggregate, achieve good blending to the liquid asphalt and the aggregate and keep the HMA plastic and flowing through the mixer and conveyor to the storage silo. Gas flows for this system will be 52,800 acfm with exhaust gas temperatures of 330 degrees Fahrenheit (F). The only fuel used at the site is natural gas. A complete process description with schematics was provided in the 15-Day Pre-Permit Approval Application dated January, 2006.

POMS are emitted in very small amounts from the heated asphalt storage tank, the baghouse assembly associated with the rotary mixer and the HMA storage silo. Virtually all the POM is from the storage silo and the baghouse exhaust. POM concentrations for the combined sources are estimated to be 0.00148 micrograms per cubic meter, and 0.0068 pounds per day conservatively based on a 24 hour day. Norm's proposed operation of the HMA is for 10 hours per day. This review considered control of these sources for T-RACT.

EPA Clearinghouse Review

The Environmental Protection Agency (EPA) RACT/BACT/LAER (RBL) Clearinghouse was reviewed for information on HMA facilities. This review noted two sites, a 1996 entry for the Granite Construction Gardner Ranch and a 1999 entry for the Santa Fe Aggregates facility. The Granite Construction site was not assigned a VOC emission limit and had ROC (Reactive Organic Compounds) controls for the dryer as "good combustion practice" and an O2 controller. The storage silo, conveyor and truck loading points were noted as "blue smoke filter packs." No designation of either RACT, BACT or LAER was noted for this installation.

The Santa Fe Aggregates site was designated as LAER, and contained a specific VOC limitation of 0.0516 pounds per MMBTU and 43 pounds per day with no other specific control information noted.

T-RACT Review

1. Norm's Utility Base Case

The Norm's Utility HMA plant will have a high-efficiency fabric baghouse assembly for the control of emissions from the rotary dryer. The baghouse assembly will provide particulate emissions control and also some POM control due to gas cooling and VOC condensation.

For the purposes of this review, the POM efficiency for the baghouse was conservatively set at 0 percent removal. Norm's will provide good combustion and maintenance practices to minimize POM emissions. These good operation and maintenance practices will include at least annual inspection and maintenance on the gas-fired rotary dryer burner and other maintenance as needed. Good operation and maintenance will also be performed on the fabric filter baghouse assembly and include at least annual inspection and maintenance and other maintenance as necessary to maintain good pollutant emissions control. A base case cost estimate was performed for good operation and maintenance and estimated that the annual maintenance cost would be $442,325 for labor and materials. This equated to a cost per ton of POM of $71.85 MM$/ton of POM emitted. This high cost per ton is a function of the extremely low emissions of POM in the base case. This cost per ton is compared to additional POM control systems.

2. Thermal Oxidizer - Afterburner

A thermal oxidizer afterburner may be used to control VOC emissions form some sources. An afterburner is typically a refractory-lined chamber where exhaust gases from a process or combustion unit are additionally heated to a high temperature to achieve additional thermal decomposition of the VOC. Duct burners are typically installed ahead of the chamber to provide the additional heat. Temperatures in the afterburner chamber typically achieve 1600 to 1800 degrees F with a gas retention period of 1 to 3 seconds. The afterburner for this review was sized to accommodate a 50 acfm flow from the HMA storage silo and a 52,800 acfm flow from the baghouse assembly exhaust for a total gas flow of 52,850 acfm. Removal efficiencies of VOC for afterburner systems are typically 95% and higher. Due to the very large gas flow and the relatively low baghouse exhaust temperatures (330 degrees F), a large afterburner and heat input is required. Natural gas heat input to a device operating at 1600 degrees F with a 2 second residence time is estimated at 60 MMBTU/hour. The fuel costs alone render an afterburner to be infeasible. Based on the above parameters, the estimated annual gas cost is about $530,000 based on 2800 hours per year of operating time. The installed cost for the afterburner is estimated at about $149,000 and the combined total fuel, capital and operating costs push the cost-effectiveness for this option to over 1 billion dollars per ton. These costs do not include the additional cost of control of the collateral air pollutant emissions associated with the duct burner operation. Detailed costs for this afterburner option are contained in Attachment A. Due to the extreme energy and capital cost for this option, an afterburner is not technically feasible, economically achievable and environmentally sound for this site.

3. Thermal Oxidizer – Regenerative Thermal Oxidizer (RTO)

A RTO is a thermal destruction device that incorporates high temperatures and gas flows with energy recovery. RTO systems include a fan, burner assembly, heat exchange media, flow control valves, control systems, instrumentation and an exhaust stack. The system is essentially a multi-chamber ceramic component filled box with gas flow manifolds and valving that allow for the chambers to be used alternately for combustion or inlet gas pre-heating. Process gas with VOC contaminants enters the RTO through an inlet manifold. A flow control valve directs this gas into an energy recovery chamber which preheats the process stream. The process gas and contaminants are progressively heated in the stoneware bed as they move toward the combustion chamber.

The VOCs are then oxidized, releasing energy in the second stoneware bed, theoretically reducing the auxiliary fuel requirement. The ceramic bed is heated and the gas is cooled so that the outlet gas temperature is only slightly higher than the inlet temperature. The flow control valve switches and alternates the ceramic beds so each is in inlet and outlet mode. As the inlet bed cools to a set point due the pre-heating of the inlet process gas, the flow is reversed and the hot outlet bed is not used for pre-heating the gases. If the process gas contains enough VOCs, the energy released from their combustion allows self-sustained operation. The process HMA dryer gas contains very low concentrations of VOC and the combustion would not be self-sustaining. VOC removal efficiencies for RTOs are typically 99 percent. It is estimated that heat recovery for this system would be about 50%.

RTO installations are very expensive, especially for high flow rates such as the HMA plant. A cost estimate for a RTO design to accommodate 52,850 acfm at 1600 degrees F was made. The installed cost for this RTO is estimated at $598,000, annual fuel costs are estimated to be about $216,000 for a 2800 hour per year operation. Detailed costs for this RTO option are contained in Attachment A. The total cost per ton of POM removed utilizing a RTO is $760.94MM/ton. This analysis again did not include the cost or impacts of the collateral air emissions on the environment from the combustion of the natural gas. Due to the extreme energy and capital cost for this option, an RTO is not technically feasible, environmentally sound and economically achievable for this site.

Summary

Based on the above review of the base case and two types of thermal oxidation systems for POM control, only the base case meets the criteria of cost and technical feasibility. Cost per ton of POM removed for the thermal oxidizer systems were calculated at $760 million for a RTO to over 1 billion dollars per ton for an afterburner, and are not cost and technically feasible. The proposed base case standard is good operation and maintenance on the rotary mixer gas burner and the fabric filter baghouse assembly. This standard is consistent with the Idaho T-RACT regulations to allow for a work practice standard and the EPA RBL Clearinghouse application of "good combustion practice" at the single non-LAER HMA site in that database. Operation and maintenance to minimize emissions of POM will be performed as described in this review.

In accordance with IDAPA 58.01.01.123, "based on information and belief formed after reasonable inquiry, the statements and information in this document are true, accurate and complete."

If there are any questions regarding this supplemental information please call Rick McCormick with CH2M HILL at (208) 383-6457.

Sincerely,

CH2M HILL

Allan Cawrse
Project Manager

Rick McCormick, P.E.
Project Engineer

Attachment A:

Cost Efficiency Summary

Afterburner Cost Analysis

RTO Cost Analysis

Base-Case Cost Analysis

Emissions Summary

cc: Bill Rogers, IDEQ-Boise
Rick McCormick, CH2M Hill – Boise

Summary of Control Cost Effectiveness

Pollutant	Control Technology	CostEffectiveness ($/ton controlled)
POM	Baghouse	$71,851,109
POM	RTO	$760,904,309
POM	Afterburner	$1,141,125,180

Attachment A - After Burner Cost-Effectiveness

Cost Item	Cost Factor	Reference	Cost (2005 $)
Direct Costs (Dc)			
Purchased Equipment Costs (PEC)			
Basic Equipment	As Estimated, A	Vendor Based Est. (incl. markup)	$95,000
Instrumentation	0.1 X A	(EPA 2002a, Sec. 1, Table 2-4)	$9,500
State Sales Taxes	Tax Rate X A	State Sales Tax	$0
Freight	0.05 X A	(EPA 2002a, Sec. 1, Table 2-4)	$4,750
PEC Subtotal (B)			$109,250
Direct Installation Costs (DIC)			
Foundations & Supports	0.08 X B	(EPA 2002a, Sec. 3.2, Table 2-8)	$8,740.00
Labor	0.14 X B	(EPA 2002a, Sec. 3.2, Table 2-8)	$15,295.00
Electrical	0.04 X B	(EPA 2002a, Sec. 3.2, Table 2-8)	$4,370.00
Piping	0.02 X B	(EPA 2002a, Sec. 3.2, Table 2-8)	$2,185.00
Insulation	0.01 X B	(EPA 2002a, Sec. 3.2, Table 2-8)	$1,093
Painting	0.01 X B	(EPA 2002a, Sec. 3.2, Table 2-8)	$1,093
DIC Subtotal			$32,775
Total Dc	PEC+DIC	-	$142,025
Indirect Costs (IDC)			
Engineering	0.10 X B	(EPA 2002a, Sec. 3.2, Table 2-8)	$10,925
Construction Overhead	0.05 X B	(EPA 2002a, Sec. 3.2, Table 2-8)	$5,463
Contractor Fees	0.10 X B	(EPA 2002a, Sec. 3.2, Table 2-8)	$10,925
Contingencies	0.03 X B	(EPA 2002a, Sec. 3.2, Table 2-8)	$3,278
Start-Up	0.02 X B	(EPA 2002a, Sec. 3.2, Table 2-8)	$2,185
Performance Testing	0.01 X B	(EPA 2002a, Sec. 3.2, Table 2-8)	$1,093
Total IDC		-	$33,868
Total Capital Investment (TCI)	Dc + IDC		$175,893

Operating Cost Factors

		Capital Recovery Factor (CRF)
Interest Rate	7%	0.144
Equipment Life	10	
Operating/Maintenance Labor $/hr	$35	
State Sales Tax (%)	0%	
Natural Gas (mBTU)	60000	

Cost Item	Cost Factor	Reference	Cost (2005 $)
Direct Annual Costs, $/Yr			
Operating Labor	8-hr shift	Estimate	$8,120
Supervisory Labor	15 % of operating labor	(EPA 2002a, Section 1, subs 2.5.5.2)	$1,218
Maintenance Labor	8-hr shift	Estimate	$8,120
Maintenance Materials	100 % of maintenance labor	(EPA 2002a, Section 1, subs 2.5.5.2)	$8,120
Cleaning	40 Man-hours per year	Estimate	$1,400
Natural Gas	$8 per MCF of BTU	Estimate	$530,286
Total Direct Annual Costs, $/yr			$557,264
Indirect Annual Costs, $/Yr			
Overhead	60% of All Labor & Maint. Costs	(EPA 2002a, Section 1, subs 2.5.5.7)	$15,347
Insurance & Administration	3% of TCI	(EPA 2002a, Section 1, subs 2.5.5.8)	$5,277
Capital Recovery	CRF X TCI	N/A	$25,328
Property Tax	1% of TCI	(EPA 2002a, Section 1, subs 2.5.5.8)	$1,759
Total Indirect Annual Costs, $/yr			$47,711
Total Annual Costs, $/Yr			$604,975

	Cr6+
Baseline Uncontrolled (TPY) (baghouse only)	5.89E-04
Total Controlled (TPY) w/ after burner (90% control)	5.89E-05
Total Net Reductions (TPY)	5.30E-04
Cost Effectiveness, $/Ton Controlled	$1,141,125,180

Attachment B - RTO Cost-Effectiveness

Cost Item	Cost Factor	Reference	Cost (2005 $)
Direct Costs (Dc)			
Purchased Equipment Costs (PEC)			
Basic Equipment	As Estimated, A	NACAH Tech Estimate	$400,000
Instrumentation	0.1 X A	(EPA 2002a, Sec. 1, Table 2-4)	$40,000
State Sales Taxes	Tax Rate X A	State Sales Tax	$0
Freight	0.05 X A	(EPA 2002a, Sec. 1, Table 2-4)	$20,000
PEC Subtotal (B)			$460,000
Direct Installation Costs (DIC)			
Foundations & Supports	0.08 X B	(EPA 2002a, Sec. 3.2, Table 2-8)	$36,800.00
Labor	0.14 X B	(EPA 2002a, Sec. 3.2, Table 2-8)	$64,400.00
Electrical	0.04 X B	(EPA 2002a, Sec. 3.2, Table 2-8)	$18,400.00
Piping	0.02 X B	(EPA 2002a, Sec. 3.2, Table 2-8)	$9,200.00
Insulation	0.01 X B	(EPA 2002a, Sec. 3.2, Table 2-8)	$4,600
Painting	0.01 X B	(EPA 2002a, Sec. 3.2, Table 2-8)	$4,600
DIC Subtotal			$138,000
Total Dc	PEC+DIC	-	$598,000
Indirect Costs (IDC)			
Engineering	0.10 X B	(EPA 2002a, Sec. 3.2, Table 2-8)	$46,000
Construction Overhead	0.05 X B	(EPA 2002a, Sec. 3.2, Table 2-8)	$23,000
Contractor Fees	0.10 X B	(EPA 2002a, Sec. 3.2, Table 2-8)	$46,000
Contingencies	0.03 X B	(EPA 2002a, Sec. 3.2, Table 2-8)	$13,800
Start-Up	0.02 X B	(EPA 2002a, Sec. 3.2, Table 2-8)	$9,200
Performance Testing	0.01 X B	(EPA 2002a, Sec. 3.2, Table 2-8)	$4,600
Total IDC		-	$142,600
Total Capital Investment (TCI)	Dc + IDC		$740,600

Operating Cost Factors For The RTO System

		Capital Recovery Factor (CRF)
Interest Rate	7%	0.144
Equipment Life	10	
Operating/Maintenance Labor $/hr	$35	
State Sales Tax (%)	0%	
Natural Gas (mBTU/hr)	30000	

Cost Item	Cost Factor	Reference	Cost (2005 $)
Direct Annual Costs, $/Yr			
Operating Labor	8-hr shift	Estimate	$8,120
Supervisory Labor	15 % of operating labor	(EPA 2002a, Section 1, subs 2.5.5.2)	$1,218
Maintenance Labor	8-hr shift	Estimate	$8,120
Maintenance Materials	100 % of maintenance labor	(EPA 2002a, Section 1, subs 2.5.5.3)	$8,120
Refractory Cleaning	40 Man-hours per year	Estimate	$1,400
Natural Gas	$8 per MCF of BTU	Estimate	$265,143
Total Direct Annual Costs, $/yr			$292,121
Indirect Annual Costs, $/Yr			
Overhead	60% of All Labor & Maint. Costs	(EPA 2002a, Section 1, subs 2.5.5.7)	$15,347
Insurance & Administration	3% of TCI	(EPA 2002a, Section 1, subs 2.5.5.8)	$22,218
Capital Recovery*	CRF X TCI	N/A	$106,646
Property Tax	1% of TCI	(EPA 2002a, Section 1, subs 2.5.5.8)	$7,406
Total Indirect Annual Costs, $/yr			$151,617
Total Annual Costs, $/Yr			$443,738

Baseline Uncontrolled (TPY) (baghouse)	5.89E-04	
Total Controlled (TPY) w/ RTO	5.89E-06	(99% additional reduction)
Total Net Reductions (TPY)	5.83E-04	
Cost Effectiveness, $/Ton Controlled	$760,904,309	

Attachment C - Baghouse Base Case

Cost Item	Cost Factor	Reference	Cost (2005 $)
Direct Costs (Dc)			
Purchased Equipment Costs (PEC)			
Basic Equipment	As Estimated, A	NACAH Tech Estimate	$0
Instrumentation	0.1 X A	(EPA 2002a, Sec. 1, Table 2-4)	$0
State Sales Taxes	Tax Rate X A	State Sales Tax	$0
Freight	0.05 X A	(EPA 2002a, Sec. 1, Table 2-4)	$0
PEC Subtotal (B)			$0
Direct Installation Costs (DIC)			
Foundations & Supports	0.06 X B	(EPA 2002a, Sec. 3.2, Table 2-8)	$0.00
Labor	0.14 X B	(EPA 2002a, Sec. 3.2, Table 2-8)	$0.00
Electrical	0.04 X B	(EPA 2002a, Sec. 3.2, Table 2-8)	$0.00
Piping	0.02 X B	(EPA 2002a, Sec. 3.2, Table 2-8)	$0.00
Insulation	0.01 X B	(EPA 2002a, Sec. 3.2, Table 2-8)	$0
Painting	0.01 X B	(EPA 2002a, Sec. 3.2, Table 2-8)	$0
DIC Subtotal			$0
Total Dc	PEC+DIC	-	$0
Indirect Costs (IDC)			
Engineering	0.10 X B	(EPA 2002a, Sec. 3.2, Table 2-8)	$0
Construction Overhead	0.05 X B	(EPA 2002a, Sec. 3.2, Table 2-8)	$0
Contractor Fees	0.10 X B	(EPA 2002a, Sec. 3.2, Table 2-8)	$0
Contingencies	0.03 X B	(EPA 2002a, Sec. 3.2, Table 2-8)	$0
Start-Up	0.02 X B	(EPA 2002a, Sec. 3.2, Table 2-8)	$0
Performance Testing	0.01 X B	(EPA 2002a, Sec. 3.2, Table 2-8)	$0
Total IDC		-	$0
Total Capital Investment (TCI)	Dc + IDC		$0

Operating Cost Factors		Capital Recovery Factor (CRF)
Interest Rate	7%	
Equipment Life	10	0.144
Operating/Maintenance Labor $/hr	$35	
State Sales Tax (%)	0%	
Natural Gas (mBTU/hr)		

Direct Annual Costs, $/Yr			
Operating Labor	8-hr shift	Estimate	$8,120
Supervisory Labor	15 % of operating labor	(EPA 2002a, Section 1, subs 2.5.5.2	$1,218
Maintenance Labor	8-hr shift	Estimate	$8,120
Maintenance Materials	100 % of maintenance labor	(EPA 2002a, Section 1, subs 2.5.5.2	$8,120
Refractory Cleaning	40 Man-hours per year	Estimate	$1,400
Natural Gas	$4 per MCF of BTU	Estimate	$0
Total Direct Annual Costs, $/yr			$26,978
Indirect Annual Costs, $/Yr			
Overhead	60% of All Labor & Maint. Costs	(EPA 2002a, Section 1, subs 2.5.5.7	$15,347
Insurance & Administration	3% of TCI	(EPA 2002a, Section 1, subs 2.5.5.8	$0
Capital Recovery*	CRF X TCI	N/A	$0
Property Tax	1% of TCI	(EPA 2002a, Section 1, subs 2.5.5.8	$0
Total Indirect Annual Costs,			$15,347
Total Annual Costs, $/Yr			$42,325

Baseline Uncontrolled (TPY) (bagf	5.89E-04
Total Net Reductions (TPY)	5.89E-04
Cost Effectiveness, $/Ton Controlled	$71,871,169

APPENDIX E

PERMIT PROCESSING FEE ASSESSMENT

P-060100

Permit to Construct Processing Fee

Facility ID/AIRS No.:	**777-00372**
Permit No.:	**P-060100**
Spreadsheet Date	3/13/2006 17:05
Facility Owner/Company:	**Norm's Utility Contractor, Inc, Rathdrum, Portable HMA**
Address:	P.O. Box 2047
City, State, Zip:	Coeur d'Alene, Idaho 83816
Facility Contact:	Tom Mattix
Contact Number:	(208) 661-5076
Contact E-mail:	

Permit to Construct Category (IDAPA 58.01.01.225)	Fee
General permit, no facility-specific requirements (Defined as source category specific permit for which the Department has developed standard emission limitations, operating requirements, monitoring and recordkeeping requirements, and that require minimal engineering analysis.	$500
New source or modification to existing source with increase of emissions < 1 ton per year (TPY)	$1,000
New source or modification to existing source with increase of emissions < 10 tons per year	$2,500
New source or modification to existing source with increase of emissions < 100 tons per year	$5,000
Nonmajor new source or modification to existing source with increase of emissions of 10 TPY to less than 100 TPY.	$7,500
New major facility or major modification.	$10,000
Permit modifications where no engineering analysis is required.	$250
Application submittals for exemption applicability determinations, types, name and ownership changes (see 224.01, .02., and .03)	$0

Portable Hot Mix Asphalt Facility PTE Based on:

A. Drum Mix Plant: 250 Tons/hour 1,200 Hours/year 300,000 Tons/year HMA throughput
Maximum emission for each pollutant from any fuel-burning option analyzed in this evaluation.
B. Tank Heater: 2.1160 MMBtu Rated 8,760 Hours/year
Maximum emission for each pollutant for heater burning any fuel analyzed in this evaluation.
C. Generator: 0 gal/hour 0 Hours/year Small or Large Generator using Diesel Fuel
Maximum emission for each pollutant for generator burning any fuel analyzed in this evaluation.
D. Load-out, Silo Filling, and Asphalt Storage Fugitive Emissions for PM: Is Facility Subject to NSPS? **Yes**
Load-out, silo filling and asphalt storage are not point sources. Fugitive emissions are NOT included in PTE for any source.

Instructions: Input answers to the following questions with a Y or N.

N	Does this facility qualify for a general permit (i.e., concrete batch plant, hot-mix asphalt plant)? Y/N
Y	Did this permit require engineering analysis? Y/N
N	Is this a PSD permit? (IDAPA 58.01.01.205) Y/N

Annual Emissions of Regulated Pollutants (total PTE from HMA facility)

IDAPA 58.01.01.xx	Pollutant	Annual Emissions Increase (T/yr)	Annual Emissions Reduction (T/yr)	Annual Emissions Change (T/yr)
006.82. c	PM (total)	5.0	0	5.0
006.82. b, c	PM-10 (total)	3.5	0	3.5
006.82. b, c	PM-2.5 (total)	0.4	0	0.0
006.82.a, b	CO	20.1	0	20.1
006.82.a, b	NOx	4.6	0	4.6
006.82. b	SO_2	0.5	0	0.5
006.82. b	Ozone (VOCs)[7]	4.8	0	4.8
006.82. b	Lead	9.6E-05	0	9.6E-05
006.82. a	HAPs	0.8	0	0.8
			Total Increase (T/yr):	34.4
			Fee Amount based on Emission Increase:	$5,000
			Fee Due (reflects answers to questions above):	**$5,000**

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